



## UNITED STATES PAVILION LIBRARY/U.S.A.

# CHALLENGE TO GREATNESS

The United States Pavilion at the 1964-65 New York World's Fair presents an exhibition dedicated to the spirit of the American people, reflecting the courage and determination that made possible the nation's past great achievements and underscoring the major challenges that face the American people today. Exhibits deal with vital subjects: economic growth and development, urban renewal, health, education, creativity, scientific research and discovery, the world community and outer space. The exhibition gives emphasis to the opportunity, defined by President Johnson, "to move not only toward the rich society and the powerful society, but upward to the Great Society."

This personalized folio, prepared especially for you by the American Library Association, is symbolic of the continuing challenge to increase each person's free access to sources of information.

NEW YORK WORLD'S FAIR 1964-65



## DESCRIPTION OF LIBRARY/U.S.A.

LIBRARY/U.S.A. IS THE INFORMATION CENTER FOR THE UNITED STATES PAVILION. IT IS SPONSORED BY THE AMERICAN LIBRARY ASSOCIATION TO ACQUAINT YOU WITH THE INDISPENSABLE NATURE OF LIBRARIES AS A NATIONAL RESOURCE. LIBRARIANS ON DUTY ARE PREPARED TO ANSWER ANY QUESTION YOU MAY ASK. A UNIVAC COMPUTER AIDS THEM IN RESPONDING TO QUESTIONS ABOUT THE EXHIBITS IN THE U.S. PAVILION. REFERENCE BOOKS ARE USED TO LOCATE INFORMATION ON ALL OTHER SUBJECTS.

FOR YOUR BROWSING PLEASURE, LIBRARY/U.S.A. FEATURES A REPRESENTATIVE COLLECTION OF BOOKS MIRRORING THE SELECTIONS MADE RECENTLY FOR THE PRESIDENT'S LIBRARY AT THE WHITE HOUSE. ALSO, A MODERN CHILDREN'S LIBRARY DISPLAYS THE LATEST IN LIBRARY SERVICE FOR CHILDREN. YOUNG ADULTS MAY 'DIAL-A-BOOK' TO HEAR ONE MINUTE REVIEWS OF OLD FAVORITES AND NEW BOOKS. TINY TOTS WILL ENJOY STORYTELLING AND MOVIES IN THE CHILDREN'S WORLD THEATER.

## ROLE OF THE COMPUTER

THE PURPOSE OF THE COMPUTER IN LIBRARY/U.S.A. IS TO DEMONSTRATE HOW MACHINE STORAGE AND RETRIEVAL OF INFORMATION MAY IN TIME SUPPLEMENT CONVENTIONAL LIBRARY REFERENCE ACTIVITY.

VISIBLE TO YOU IN THE GLASS ENCLOSED ROOM IS THE UNIVAC 490 REAL-TIME COMPUTER. IT CONTAINS THE INFORMATION STORAGE DEVICES AND COMMUNICATIONS EQUIPMENT NEEDED TO RESPOND TO YOUR REQUEST. THE DATA FOR ALL LIBRARY/U.S.A. APPLICATIONS IS STORED ON A MAGNETIC DRUM CALLED FASTRAND. THE FASTRAND DRUM REVOLVES CONTINUALLY AT HIGH SPEED AND THE AVERAGE TIME REQUIRED TO FIND INFORMATION ON IT IS MEASURED IN THOUSANDTHS OF A SECOND.

THE UNISSET IS THE INPUT DEVICE USED BY THE LIBRARIAN TO ENTER YOUR REQUEST INTO THE SYSTEM. THERE IS A UNISSET STATIONED AT EACH OF THE SIX LIBRARY/U.S.A. REFERENCE DESKS AND EACH TRANSMITS THE REQUEST TO THE COMPUTER OVER A CABLE LINE.

WHEN THE COMPUTER RECEIVES THE INPUT REQUEST, IT COMPOSES A RESPONSE AUTOMATICALLY BY EXTRACTING SELECTIONS OF DATA FROM THE FASTRAND DRUM AND COMMUNICATES IT TO THE HIGH SPEED PRINTER LOCATED BEHIND THE LIBRARIAN. BY THESE MEANS MORE THAN 1,200 WORDS CAN BE PRINTED IN LESS THAN FOUR SECONDS AFTER THE LIBRARIAN INITIATES THE REQUEST ON THE UNISSET.

THE UNIVAC 490 REAL-TIME COMPUTER POSSESSES POWERFUL COMMUNICATION CAPABILITIES AND MAY BE CONNECTED TO OTHER COMPUTERS OR DATA TRANSMITTING DEVICES ANYWHERE IN THE WORLD WHERE DATA TRANSMISSION LINES ARE AVAILABLE. BY DIALING THROUGH DATA-PHONE CONNECTIONS



FOR EXAMPLE, A REQUESTER IN LOS ANGELES MAY OBTAIN INFORMATION FROM LIBRARY/U.S.A. IN NEW YORK. LAST YEAR THIS WAS DEMONSTRATED BY UNIVAC WITH COMPUTERS LOCATED IN ST. LOUIS, NEW ORLEANS, AND WASHINGTON, D.C. IN ADDITION, THIS YEAR ANY NATION-WIDE TELETYPEWRITER MACHINE WILL BE ABLE TO COMMUNICATE DIRECTLY WITH THE UNIVAC 490 AT LIBRARY/U.S.A.

AN IMPORTANT FEATURE OF THE UNIVAC 490 REAL-TIME COMPUTER IS ITS ABILITY TO CONCURRENTLY PROCESS SEPARATE REQUESTS INITIATED FROM DIFFERENT REMOTE POINTS AT THE SAME TIME. THIS FEATURE COMBINED WITH THE COMPUTER'S HIGH SPEED, MEASURED IN MILLIONTHS OF A SECOND, ALLOWS THE LIBRARIAN AT LIBRARY/U.S.A. TO RESPOND TO YOUR REQUEST EFFICIENTLY AND INDEPENDENTLY OF ALL OTHER INQUIRIES.

INFORMATION ON 75 DIFFERENT TOPICS TREATED IN THE U.S. PAVILION EXHIBITS IS STORED IN THE COMPUTER'S FASTRAND MEMORY. YOU MAY ASK FOR INFORMATION OF THREE DIFFERENT KINDS:

1. ESSAYS.

ENCYCLOPAEDIA BRITANNICA EDITORS WROTE ORIGINAL ESSAYS FOR ADULTS AND FOR CHILDREN. THE ADULT ESSAYS WERE THEN TRANSLATED INTO GERMAN, FRENCH AND SPANISH.

2. READING LISTS

TO SUPPLEMENT THE ESSAYS, TWENTY DIFFERENT LIBRARIES ACROSS THE COUNTRY PREPARED LISTS OF BOOKS AT FIVE LEVELS. TITLES OF BOOKS WERE CAREFULLY SELECTED AND ARE PROBABLY AVAILABLE IN YOUR HOME TOWN LIBRARY.

3. MAGAZINE ARTICLES.

THROUGH THE COURTESY OF THE H. W. WILSON COMPANY, A CURRENT INDEX TO SELECTED ARTICLES FROM 18 POPULAR MAGAZINES IS STORED IN THE COMPUTER. NEW ARTICLES ARE ENTERED INTO THE MACHINE REGULARLY SO THAT THE COMPUTER'S MEMORY ALWAYS HAS THE MOST UP TO DATE LISTINGS OF ARTICLES RELATED TO THE VARIOUS U.S. PAVILION EXHIBITS. THROUGH THE UNISER, THE LIBRARIAN MAY REQUEST LISTS OF ARTICLES IN COMBINATION TO SUIT YOUR INTERESTS.

THE AMERICAN LIBRARY ASSOCIATION ACKNOWLEDGES SUPPORT RECEIVED FROM ITS PRINCIPAL SPONSORS -UNIVAC DIVISION OF SPERRY RAND CORP., ENCYCLOPAEDIA BRITANNICA, WORLD BOOK ENCYCLOPEDIA, BRO-DART INDUSTRIES, EASTMAN KODAK CO., H. W. WILSON CO., FORDHAM EQUIPMENT CO., AMERICAN TELEPHONE & TELEGRAPH CO., THE COUNCIL ON LIBRARY RESOURCES, INC., AND THE NATIONAL SCIENCE FOUNDATION. THE GENEROUS COOPERATION OF AMERICAN AND FOREIGN BOOK PUBLISHERS IS GREATLY APPRECIATED.

# LIBRARY/U.S.A.

## INFORMATION CENTER FOR THE UNITED STATES PAVILION NEW YORK WORLD'S FAIR



An important library information service of the future is being demonstrated here today. Data stored in this 490 Real-Time Computer may be requested from, transmitted to and printed at any location in the country—or throughout the world—where data transmission facilities are available.

### OPERATION:

#### American Library Association

*in cooperation with*  
Special Libraries Association and  
American Documentation Institute

### COMPUTER:

Installed and maintained by

## UNIVAC

DIVISION OF SPERRY RAND CORPORATION

### INFORMATION:

Researched and compiled by:

Essays—Encyclopaedia Britannica Inc.  
Reading Lists—A.L.A. Adult Services Division

Forms by ALLIED/EGRY Business Systems



LIBRARY/USA  
UNITED STATES PAVILION  
NEW YORK WORLD'S FAIR 1964-65

OCT. 17, 1965  
7:23 PM

THE AMERICAN LIBRARY ASSOCIATION IS DELIGHTED THAT YOU VISITED OUR LIBRARY. IN ANSWER TO YOUR REQUEST FOR INFORMATION ON THE POPULATION EXPLOSION, THIS ESSAY IS PRESENTED. IT TOOK THE UNIVAC COMPUTER JUST FOUR SECONDS TO LOCATE THE TEXT AND PRINT IT FOR YOU. THE AMERICAN LIBRARY ASSOCIATION INVITES YOU TO VISIT YOUR LOCAL LIBRARY FOR ADDITIONAL INFORMATION ON THIS AND OTHER SUBJECTS OF INTEREST TO YOU.

NEVER IN HUMAN HISTORY HAS POPULATION MULTIPLIED SO RAPIDLY AS DURING THE 20TH CENTURY. WORLD POPULATION HAS RACED WELL PAST THE 3,000,000,000 MARK IT REACHED DURING THE YEAR 1960, AND IS RUSHING AHEAD AT AN ANNUAL ESTIMATED RATE OF INCREASE OF 1.8%. THIS RATE, WHICH IF CONTINUED WOULD DOUBLE THE NUMBER TO OVER 6,000,000,000 PERSONS BY THE YEAR 2000, IS WELL ABOVE THAT PREVAILING IN ANY PREVIOUS EPOCH. ACCORDING TO WIDELY ACCEPTED ESTIMATES, THE AVERAGE RATE OF INCREASE ROSE FROM LESS THAN 0.1% PER YEAR IN ANCIENT AND MEDIEVAL TIMES TO ABOUT 0.3% AT THE BEGINNING OF THE 18TH CENTURY AND ABOUT 0.6% DURING THE MIDDLE DECADES OF THE 19TH CENTURY.

THE ACCELERATION OF POPULATION INCREASE IN THE 20TH CENTURY WAS THE RESULT OF PROGRESSIVE AND WORLD-WIDE LOWERING OF MORTALITY. INCREASED MEDICAL KNOWLEDGE, NEW DRUGS, AND EXPANDED PUBLIC HEALTH AND SANITATION SERVICES NOT ONLY HAVE LENGTHENED LIFE SPANS IN ADVANCED COUNTRIES BUT ALSO HAVE CAUSED DEATH RATES IN LESS DEVELOPED COUNTRIES TO DROP SUDDENLY AND SHARPLY WHILE BIRTH RATES HAVE REMAINED HIGH.

ALTHOUGH EVERY PART OF THE WORLD IS CONTRIBUTING TO THE POPULATION EXPLOSION, THE LARGEST INCREASES ARE IN THE COUNTRIES THAT CAN LEAST AFFORD THEM. LATIN AMERICA AND ASIA HAVE THE HIGHER RATES OF GROWTH; MANY COUNTRIES OF EUROPE HAVE THE LOWER RATES.

POPULATION PROBLEMS CONCERN THE VERY FOUNDATION OF THE SOCIAL STRUCTURE. MOST CONTEMPORARY THINKERS



VIEW THE ADVANCEMENT OF EDUCATION, THE CONTROL OF FERTILITY, AND CONSTRUCTIVE CHANGES IN ECONOMIC INSTITUTIONS AS COMPLEMENTARY PROCESSES--NONE OF WHICH CAN BE EFFECTIVE UNLESS REINFORCED BY THE OTHERS. THEY POINT TO SPECIFIC WAYS IN WHICH RAPID INCREASES OF POPULATION IN LOW-INCOME COUNTRIES HAMPER BOTH ECONOMIC AND SOCIAL DEVELOPMENT. THESE BRIEF COMMENTS SUGGEST LARGER AND MORE COMPLEX PROBLEMS.

NO POPULATION PROJECTIONS ARE PROPHETIC. THE PROJECTIONS MERELY SHOW THE EXPECTED EFFECTS OF TRENDS IF THESE CONTINUE WITHOUT DRASTIC MODIFICATION. NEVERTHELESS THIS UNPRECEDENTED GROWTH IN POPULATION PREFIGURES CRISES OF GRAVE PROPORTIONS AHEAD UNLESS IT IS PROMPTLY AND DECISIVELY CHECKED, IN THE VIEW OF MANY AUTHORITIES. IT IS NOT ENOUGH TO HOPE THAT ADVANCING TECHNOLOGY WILL KEEP FOOD SUPPLY ABREAST OF POPULATION INCREASE AND THUS MAINTAIN CURRENT LEVELS OF LIVING, IT HAS BEEN SAID. ONE CRUCIAL RESOURCE, SPACE ON THIS PLANET, LIMITS THE EXTENT TO WHICH AN EXPANDING WORLD POPULATION CAN BE ACCOMMODATED, ESPECIALLY SINCE INTERPLANETARY MIGRATION PROMISES LITTLE RELIEF IN THE FORESEEABLE FUTURE.

THE PRINCIPAL OBSTACLES TO POPULATION CONTROL HAVE NOT BEEN SCIENTIFIC OR TECHNICAL, BUT RATHER RELIGIOUS AND ETHICAL, POLITICAL AND CULTURAL.

POLICIES DESIGNED TO PROMOTE THE LIMITATION OF BIRTHS HAVE BEEN OFFICIALLY ADOPTED BY THE GOVERNMENTS OF JAPAN, INDIA, PAKISTAN, PUERTO RICO, AND OTHERS. JAPAN'S BIRTH RATE HAS DECLINED SHARPLY SINCE 1950, LARGELY BY THE MEANS OF ABORTION. PUERTO RICO HAS MANAGED TO MINIMIZE POPULATION GROWTH PARTLY BY MIGRATION TO THE U.S. MAINLAND, PARTLY BY STERILIZATION, AND PARTLY BY BIRTH CONTROL. IN MANY COUNTRIES THERE HAVE BEEN SURGES OF INTEREST IN VARIOUS PROGRAMS OF FAMILY PLANNING. THESE STIRRINGS OF CONCERN PROVIDE SOME HOPE TO THOSE WHO BELIEVE THE LESS DEVELOPED AREAS CAN WORK OUT THEIR POPULATION PROBLEMS IF THEY ARE APPROACHED IN THE CONTEXT OF COMPREHENSIVE EFFORTS AT IMPROVEMENT IN HEALTH, EDUCATION, EMPLOYMENT OPPORTUNITIES, AND LEVELS OF LIVING.

THIS ESSAY WAS ADAPTED FROM ENCYCLOPAEDIA BRITANNICA AND BRITANNICA JUNIOR ENCYCLOPAEDIA BY THEIR EDITORS, IN COOPERATION WITH THE AMERICAN LIBRARY ASSOCIATION.



LIBRARY/USA  
UNITED STATES PAVILION  
NEW YORK WORLD'S FAIR 1964-65

OCT. 17, 1965  
7:24 PM

THE AMERICAN LIBRARY ASSOCIATION IS DELIGHTED THAT YOU VISITED OUR LIBRARY. IN RESPONSE TO YOUR REQUEST WE PRESENT THIS ESSAY ON THE SCIENCE OF MEDICINE. IT TOOK THE UNIVAC COMPUTER JUST FOUR SECONDS TO LOCATE THE TEXT AND PRINT IT FOR YOU. THE AMERICAN LIBRARY ASSOCIATION INVITES YOU TO VISIT YOUR LOCAL LIBRARY FOR ADDITIONAL INFORMATION ON THIS SUBJECT.

IT HAS BEEN SAID THAT MORE MEDICAL PROGRESS HAS BEEN MADE IN THE 20TH CENTURY THAN IN THE 2,300 YEARS THAT ELAPSED SINCE HIPPOCRATES STARTED WESTERN MEDICINE. IN WORLD WAR I THE ANNUAL DEATH RATE FOR U.S. SOLDIERS ABROAD WAS 12.8 FOR EACH 1,000 MEN; IN WORLD WAR II IT WAS 0.5. IN 1900 A NEWBORN CHILD HAD A LIFE EXPECTANCY OF 49.2 YEARS; IN 1961, 70.2 YEARS.

PROGRESS IN THE TRANSPLANTATION OF HUMAN ORGANS IS THE OUTSTANDING RECENT MEDICAL DEVELOPMENT. ABOUT 250 KIDNEY TRANSPLANTATIONS HAD BEEN ATTEMPTED THROUGH 1963 AND ABOUT 90 OF THE PATIENTS WERE STILL ALIVE AT THE END OF THE YEAR. ATTEMPTS HAVE BEEN MADE TO TRANSPLANT A LIVER AND A LUNG. MANY CARDIOLOGISTS BELIEVE A HUMAN HEART WILL BE TRANSPLANTED COMPARATIVELY SOON. CORNEAS OF THE EYE HAVE LONG BEEN REPLACED, AND BANKS FOR BONES, NERVES, ARTERIES, SKIN, AND BLOOD ARE WIDELY KNOWN. A NUMBER OF CASES HAVE BEEN REPORTED OF SUCCESSFULLY RE-ATTACHING SEVERED ARMS OR FINGERS. ANOTHER SURGICAL ADVANCE HAS BEEN THE USE OF PLASTIC VALVES TO REPLACE HEART VALVES DAMAGED BY DISEASE.

RESEARCH ON HEART DISEASE, THE LEADING CAUSE OF U.S. DEATHS, IS ADVANCING RAPIDLY IN SURGERY, PHYSIOLOGY, PHARMACOLOGY, AND BIOCHEMISTRY. EMPHASIS IS PLACED ON STUDIES OF HYPERTENSION AND ATHEROSCLEROSIS. OPEN-HEART SURGERY UTILIZES HEART-LUNG APPARATUS. ANTICOAGULANTS, ADVANCED ANESTHESIOLOGY, HYPOTHERMIA OR STOP-HEART TECHNIQUES, ELECTRONIC AND OTHER CONTROLS, AS WELL AS THE ULTIMATE SKILLS OF A CLINICAL TEAM.



NEW DEVELOPMENTS IN THE STUDY OF CANCER, THE SECOND LEADING CAUSE OF DEATH IN THE U.S., HAVE EMERGED FROM RESEARCH ON DRUGS, VIRUSES, AND THE FUNDAMENTAL NATURE OF CELLS. IN THE EARLY 1960'S ABOUT 20 DRUGS WERE BEING USED AGAINST 30 TYPES OF CANCER. HUMAN VIRUSES WERE IMPLICATED IN THE PRODUCTION OF TUMORS IN 1962, AND ANOTHER NEW CONCEPT ON THE CAUSE OF CANCER RELATES TO STUDIES OF A NUCLEIC ACID, DEOXY-RIBONUCLEIC ACID (DNA).

ABOUT 500 NEW DRUGS, MOST OF THEM MODIFICATIONS OF EXISTING DRUGS, ARE INTRODUCED EACH YEAR. THE ORAL CONTRACEPTIVE DRUGS SEEM TO BE HIGHLY EFFECTIVE. NEW PENICILLINS HAVE BEEN DISCOVERED THAT ARE CAPABLE OF ATTACKING GERMS THAT HAVE BECOME RESISTANT TO OLDER PENICILLINS. DRUGS THAT AFFECT THE TISSUES OF THE BRAIN ARE OF INCREASING IMPORTANCE IN PSYCHIATRIC TREATMENT, AND NEW DRUGS HAVE BEEN FOUND HELPFUL IN TREATING BREAST CANCER, MALARIA, MIGRAINE HEADACHES, GOUTY ARTHRITIS, JAUNDICE, FIBROCYSTIC DISEASE, AND INTESTINAL INFECTIONS. VIRAL RESEARCH HAS DEVELOPED VACCINES AGAINST POLIOMYELITIS AND MEASLES.

TECHNOLOGY IN MEDICINE HAS BEEN HIGHLIGHTED BY SUCH RECENTLY DEVELOPED ELECTRONIC AIDS AS A TINY TV CAMERA TO VIEW SUSPECTED TROUBLE SPOTS INSIDE THE HUMAN BODY; AN ELECTRONIC MEDICAL SYSTEM TO MEASURE AND RECORD THE TEMPERATURE, PULSE RATE, RESPIRATION RATE, AND BLOOD PRESSURES OF TWELVE OR MORE PATIENTS EVERY TWO MINUTES; AND COMPUTERS TO REVEAL A WIDE RANGE OF OCULAR AND CENTRAL NERVOUS SYSTEM DISORDERS. ULTRASOUND WAVES ARE USED TO TREAT PSYCHONEUROSIS. THE LASER, A DEVICE THAT PRODUCES A LIGHT BEAM OF GREAT INTENSITY, WAS USED FOR THE FIRST TIME IN 1963 TO COAGULATE TISSUE. RADIOISOTOPES ARE BEING UTILIZED AS TRACERS OF BIOLOGICAL PROCESSES AND FOR THE SELECTIVE DESTRUCTION OF DISEASED TISSUES. X-RAYS, RADIUM, ELECTRONS, NEUTRONS AND OTHER HIGH-SPEED PARTICLES ARE ALSO EMPLOYED IN THERAPEUTIC RADIOLOGY.

THE 1962 NOBEL PRIZE FOR MEDICINE WAS AWARDED TO F. CRICK, J. WATSON AND M. WILKINS FOR THE DISCOVERY OF THE MOLECULAR STRUCTURES OF DNA, THE 'SUBSTANCE' OF HEREDITY.

SPACE MEDICINE DEALS WITH THE SPECIAL MEDICAL PROBLEMS OF SPACE TRAVEL. ITS FUNCTIONS INCLUDE THE MEDICAL SELECTION, TRAINING AND PROTECTION OF SPACE CREWS. AND THE IDENTIFICATION AND INVESTIGATION OF MEDICAL PROBLEM AREAS IN FUTURE MISSIONS.

THIS ESSAY WAS ADAPTED FROM ENCYCLOPAEDIA BRITANNICA AND BRITANNICA JUNIOR ENCYCLOPAEDIA BY THEIR EDITORS, IN COOPERATION WITH THE AMERICAN LIBRARY ASSOCIATION.



LIBRARY/USA  
UNITED STATES PAVILION  
NEW YORK WORLD'S FAIR 1964-65

OCT. 17, 1965  
7:24 PM

THE AMERICAN LIBRARY ASSOCIATION IS DELIGHTED THAT YOU VISITED OUR LIBRARY. IN RESPONSE TO YOUR REQUEST, WE PRESENT THIS ESSAY ON HOBBIES. IT TOOK THE UNIVAC COMPUTER JUST FOUR SECONDS TO LOCATE THE TEXT AND PRINT IT FOR YOU. THE AMERICAN LIBRARY ASSOCIATION INVITES YOU TO VISIT YOUR LOCAL LIBRARY FOR MORE INFORMATION ON THIS SUBJECT.

AMERICANS ARE SPENDING MORE TIME AND MONEY ON FREE-TIME PLEASURES THAN EVER BEFORE. IN 1962, 32,000,000 AMERICANS WERE BOWLING, AND THE FIGURE WAS INCREASING BY 1,000,000 A YEAR. ALTHOUGH GAMES LIKE CANASTA AND SCRABBLE WERE PAST THEIR PEAK, BRIDGE STILL IS POPULAR. THERE ARE ABOUT 40,000,000 BRIDGE PLAYERS IN THE UNITED STATES, ABOUT DOUBLE THE NUMBER WHO WERE PLAYING IN THE 1930'S. STRATEGY GAMES OF THE CHESS TYPE HAVE SEEN A PERIOD OF POPULARITY, AND REMOTE-CONTROLLED MINIATURE SPORTS CARS RACING AROUND A TRACK HAVE EMERGED AS A MAJOR HOBBY, TENDING TO ECLIPSE THE LONG-TIME POPULARITY OF ELECTRIC TRAINS.

SKIN DIVING AND SCUBA DIVING, UNKNOWN BEFORE WORLD WAR II, ATTRACTED FROM 5,000,000 TO 8,000,000 PARTICIPANTS IN 1962. THE NUMBER OF PERSONS ENJOYING RECREATIONAL BOATING HAS INCREASED TO MORE THAN 40,000,000. SIGHTSEEING AND CAMPING ARE, AS ALWAYS, POPULAR, AND PHOTOGRAPHY AS A HOBBY CONTINUES TO GROW. IN 1962 THERE WERE IN THE U.S. ALONE AN ESTIMATED 6,100,000 8-MM. AND 16-MM. MOTION-PICTURE CAMERAS IN USE, AND MANY MORE STILL CAMERAS.

PERHAPS BECAUSE OF THE HISTORY AND ROMANCE ASSOCIATED WITH THE ROSE AND THE CHALLENGE OF ITS CULTURE, ROSE GARDENING IS AN ABSORBING HOBBY FOR MANY. THERE ARE NATIONAL AMATEUR AND PROFESSIONAL ROSE ORGANIZATIONS IN SEVERAL COUNTRIES.

NO ONE CAN SAY WITH CERTAINTY WHEN STAMP COLLECTING BEGAN. IT WAS NOT UNTIL 1840 THAT THE FIRST POSTAGE STAMPS OF THE KIND WE KNOW TODAY WERE PUT ON SALE. THE FIRST STAMP ALBUMS WERE ISSUED IN 1862. JUSTIN



LALLIER ORIGINATED BOTH THE FRENCH AND THE ENGLISH EDITIONS, IN PARIS. THE OUTSTANDING COLLECTION IN EUROPE IN THE EARLY 1960'S WAS THE PRIVATE COLLECTION OF QUEEN ELIZABETH II. IT IS ESPECIALLY RICH IN BRITISH AND COLONIAL ISSUES. OF THE SEVERAL FAMOUS COLLECTIONS IN THE UNITED STATES, ONE OF THE MOST BIZARRE WAS FORMED BY COL. E.H.R. GREEN; IT STRESSED UNUSUAL MATERIALS, SUCH AS QUANTITIES OF THE 'BLUE PAPER' ISSUES OF THE U.S., THE ONLY POSITION BLOCKS OF THE 24-CENT AIRMAIL WITH INVERTED CENTER (U.S., 1918) AND A NUMBER OF SHEETS OF THE IMPERFORATE 5-CENT CARMINE ERROR (U.S., 1915). OTHER NOTED COLLECTIONS WERE THOSE OF SOL NEWBURY (CHICAGO), ALFRED LICHTENSTEIN AND THEODORE STEINWAY (NEW YORK).

THE PRACTICE OF COLLECTING AUTOGRAPHS DATES BACK TO THE 16TH CENTURY, WHEN STUDENTS IN GERMANY AND THE LOW COUNTRIES COLLECTED THEIR FRIENDS' AUTOGRAPHS IN SMALL ALBUMS KNOWN AS 'ALBA AMICORUM.'

THE INTEREST IN MODELMAKING AS A HOBBY MAY LIE IN ITS POWER TO COMMUNICATE THE ESSENTIAL VISUAL ASPECTS OF SOMETHING PLANNED OR ALREADY EXISTING. FOR RECREATIONAL AND HOBBY PURPOSES, MODELS ARE CONSTRUCTED AND USED BY CHILDREN AND ADULTS. GENERALLY THESE ARE AIRPLANES, BOATS, RAILWAY TRAINS AND EQUIPMENT, AUTOMOBILES, STEAM ENGINES OR BUILDINGS AND STRUCTURES OF ALL SORTS. THESE MODELS MAY BE FOR DISPLAY ONLY, OR THEY MAY BE POWERED BY STEAM OR ELECTRICITY, BY MOTORS USING GASOLINE, DIESEL OIL OR COMPRESSED GASES, OR BY JET ENGINES USING LIQUID FUEL OR COMPRESSED GAS.

YOUNG MEN HAD TURNED TO WIRELESS TELEGRAPHY AS A HOBBY IN THE PERIOD 1903-1912. THOUSANDS OF LONG-WAVE TRANSMITTERS WERE INSTALLED. AMATEURS INTERFERED WITH COMMERCIAL AND GOVERNMENT WIRELESS AND IN 1911-12 BECAME SUBJECT TO LICENSE RESTRICTIONS. AMATEURS ADOPTED VACUUM TUBES WHEN THESE BECAME AVAILABLE AROUND 1919. THESE OPERATORS HAVE NOW CELEBRATED THEIR 50TH YEAR OF LICENSED AMATEUR RADIO OPERATION, WHILE CONTINUING THEIR EMPHASIS ON SPACE COMMUNICATION. PROJECT OSCAR (ORBITING SATELLITE CARRYING AMATEUR RADIO) AFFORDED THE 350,000 RADIO AMATEURS AROUND THE WORLD A CHANCE TO PRACTISE TRACKING TECHNIQUES AND TO STUDY VERY HIGH-FREQUENCY PROPAGATION EFFECTS IN SPACE.

THIS ESSAY WAS ADAPTED FROM ENCYCLOPAEDIA BRITANNICA AND BRITANNICA JUNIOR ENCYCLOPAEDIA BY THEIR EDITORS, IN COOPERATION WITH THE AMERICAN LIBRARY ASSOCIATION.



LIBRARY/USA  
UNITED STATES PAVILION  
NEW YORK WORLD'S FAIR 1964-65

OCT. 17, 1965  
7:24 PM

THE AMERICAN LIBRARY ASSOCIATION IS DELIGHTED THAT YOU VISITED OUR LIBRARY. IN RESPONSE TO YOUR REQUEST WE PRESENT THIS ESSAY ON ECONOMIC PROBLEMS. IT TOOK THE UNIVAC COMPUTER JUST FOUR SECONDS TO LOCATE THE TEXT AND PRINT IT FOR YOU. THE AMERICAN LIBRARY ASSOCIATION INVITES YOU TO VISIT YOUR LOCAL LIBRARY FOR MORE INFORMATION ON THIS SUBJECT AND OTHER SUBJECTS OF INTEREST TO YOU.

ACTIVITIES OF THE FEDERAL GOVERNMENT HAVE BECOME A DOMINANT FACTOR IN THE U.S. ECONOMY. FOR EXAMPLE, THE ESTIMATED DEFENSE EXPENDITURES FOR 1964--OVER HALF THE TOTAL BUDGET--ARE OVER \$55,000,000,000. GOVERNMENT SUBSIDIES FOR 1964 ARE ESTIMATED AT MORE THAN \$8,400,000,000, OF WHICH ABOUT \$5,000,000,000 ARE FOR AGRICULTURE. THE COST OF URBAN RENEWAL SUBSIDIES FOR THE YEAR IS ABOUT \$306,000,000, SHIP SUBSIDIES \$230,000,000, AND PUBLIC HOUSING AID \$211,000,000.

THE PROGRAM OF THE ATOMIC ENERGY COMMISSION (ESTIMATED AT \$2,850,000,000 FOR 1964) HAS AS ONE OF ITS GOALS THE PRODUCTION OF 'ECONOMICALLY ATTRACTIVE' ELECTRIC POWER FOR INDUSTRY. THE REACTOR NEAR IDAHO FALLS, IDAHO, MADE AN IMPORTANT STEP IN THIS DIRECTION WHEN IT DEMONSTRATED IN NOVEMBER 1963 THAT IT COULD PRODUCE HEAT SUFFICIENT FOR 20,000 KILOWATTS OF ELECTRICITY WHILE 'BREEDING' MORE PLUTONIUM THAN IT CONSUMED. U.S. ORDERS TO THE AEROSPACE INDUSTRY HAVE BEEN AT THE RATE OF \$12,000,000,000 OR MORE ANNUALLY, SPACECRAFT ACCOUNTING FOR ABOUT ONE-SIXTH OF THIS.

THE GROWTH OF THE NEW TECHNOLOGY, WHICH TENDS TO BE CENTRALIZED AND SPECIALIZED, WAS PARALLELED BY THE PROBLEM OF AN UNEMPLOYMENT RATE NEAR 6%. AMONG THE GOVERNMENT'S MEASURES TO REDUCE UNEMPLOYMENT ARE TAX INCENTIVES TO INDUSTRY, PUBLIC WORKS PROJECTS, AND RETRAINING PROGRAMS FOR WORKERS DISPLACED BY AUTOMATION AND OTHER INDUSTRIAL CHANGES. THE FEDERAL WAGE-HOUR LAW OF 1961 SET THE MINIMUM WAGE AT \$1.15 AN HOUR, AND INCLUDED A PROVISIO BY WHICH IT WAS RAISED



TO \$1.25 SEPTEMBER 1, 1963. AVERAGE HOURLY EARNINGS IN U.S. MANUFACTURING INDUSTRIES WERE WELL OVER \$2.00 IN THE EARLY 1960'S.

IN RECENT YEARS THE GOVERNMENT HAS STIPULATED EQUAL JOB OPPORTUNITIES FOR NEGROES IN CONNECTION WITH PROJECTS FINANCED BY IT. THE DEPARTMENT OF LABOR AND THE FAIR EMPLOYMENT PRACTICE COMMISSIONS HAVE URGED MANAGEMENT AND UNIONS TO PROVIDE MORE OPENINGS FOR NEGRO APPRENTICES. ANOTHER OBJECTIVE IS TO OPEN MORE OF THE BETTER PAID WHITE-COLLAR JOBS TO NEGROES. HIGH RATES OF UNEMPLOYMENT FOR NEGROES STILL PREVAIL. HOWEVER, THE NUMBER OF NON-WHITES IN WHITE-COLLAR OCCUPATIONS ROSE BY 50% BETWEEN 1955 AND 1963.

AN UNPRECEDENTED ASSERTION OF GOVERNMENT AUTHORITY IN LABOR DISPUTES WAS THE ESTABLISHMENT BY CONGRESS IN 1963 OF MACHINERY FOR ARBITRATION OF THE CONTROVERSY CONCERNING THE RIGHT OF THE RAILWAYS TO ELIMINATE JOBS THEY CONSIDERED UNNECESSARY.

IN THE 1960'S IT BECAME CLEAR THAT A FLEXIBLE TARIFF POLICY WOULD BE NEEDED IN ORDER TO ESTABLISH BARGAINING POWER WITH THE THRIVING EUROPEAN ECONOMIC COMMUNITY. THE TRADE EXPANSION ACT OF 1962 GAVE THE PRESIDENT AUTHORITY TO REDUCE CURRENT RATES OF DUTY BY 50% AND EVEN TO REMOVE TARIFFS ENTIRELY IN SOME CASES. WITHIN THE YEAR REDUCTIONS WERE GRANTED ON ABOUT 1100 INDIVIDUAL DUTY RATES IN ORDER TO OBTAIN EQUIVALENT CONCESSIONS. VARIOUS FORMS OF ASSISTANCE WERE OFFERED TO BUSINESS FIRMS AND THEIR WORKERS WHO WERE SERIOUSLY AFFECTED BY THE REDUCTIONS.

U.S. EXPORTS HAVE BEEN MOVING TO RECORD LEVELS, BUT IMPORTS ALSO HAVE BEEN RISING. MERCHANDISE EXPORTS FOR 1963 WERE ESTIMATED, ON THE BASIS OF THE SHOWING FOR THE FIRST SIX MONTHS, AT \$21,400,000,000, 2% ABOVE THE COMPARABLE 1962 FIGURES. IMPORTS, RISING BY 3%, REACHED \$16,600,000,000. THE EXPORT SURPLUS OF \$4,800,000,000 REPRESENTED A SLIGHTLY REDUCED ANNUAL RATE OF INCREASE. EXPORTS TO THE LATIN AMERICAN REPUBLICS WERE THE LOWEST OF ANY SIX-MONTH PERIOD FOR MANY YEARS.

AT THE WHITE HOUSE CONFERENCE ON EXPORT EXPANSION IN SEPTEMBER 1963 INDUSTRIALISTS URGED TAX CONCESSIONS ON EXPORTS. IT WAS ESTIMATED THAT ABOUT \$2,850,000,000 OF THE 1963 EXPORTS WERE FINANCED BY GOVERNMENT GRANTS, FOREIGN AID FUNDS, EXPORT-IMPORT BANK LOANS AND AGRICULTURAL PROGRAMS.

THIS ESSAY WAS ADAPTED FROM ENCYCLOPAEDIA BRITANNICA AND BRITANNICA JUNIOR ENCYCLOPAEDIA BY THEIR EDITORS, IN COOPERATION WITH THE AMERICAN LIBRARY ASSOCIATION.



LIBRARY/USA  
UNITED STATES PAVILION  
NEW YORK WORLD'S FAIR 1964-65

APR. 28, 1965  
1:01 PM

THE AMERICAN LIBRARY ASSOCIATION IS DELIGHTED THAT YOU VISITED OUR LIBRARY. IN RESPONSE TO YOUR REQUEST WE PRESENT THIS ESSAY ON CITY PLANNING. IT TOOK THE UNIVAC COMPUTER JUST FOUR SECONDS TO LOCATE THE INFORMATION AND PRINT IT FOR YOU. THE AMERICAN LIBRARY ASSOCIATION INVITES YOU TO VISIT YOUR LOCAL LIBRARY FOR MORE INFORMATION ON THIS SUBJECT.

CITY PLANNING IS THE GUIDANCE OF THE GROWTH AND CHANGE OF URBAN AREAS. IT TAKES EFFECT LARGELY THROUGH THE OPERATIONS OF GOVERNMENT AND REQUIRES THE APPLICATION OF SPECIALIZED TECHNIQUES OF SURVEY, ANALYSIS, FORECASTING, AND DESIGN.

DURING THE ERA OF INDUSTRIAL GROWTH IN THE 19TH CENTURY SPRAWLING GIANT METROPOLITAN CITIES DEVELOPED. THEIR SLUMS, CONGESTION, DISORDER, AND UGLINESS PROVOKED THE BEGINNINGS OF THE MODERN HOUSING AND CITY-PLANNING MOVEMENTS. EARLY IN THE 20TH CENTURY, FACTORIES INVADDED RESIDENTIAL AREAS, TENEMENTS CROWDED IN AMONG SMALL HOUSES AND THE FIRST SKY-SCRAPERS OVERSHADOWED OTHER BUILDINGS. ZONING DEVELOPED IN AN EFFORT TO PRESERVE PROPERTY VALUES AND ACHIEVE ECONOMY AND EFFICIENCY IN THE STRUCTURE AND ARRANGEMENT OF THE CITY. BY MID-CENTURY CITY PLANNING WAS AIMED AT THE IMPROVEMENT OF ALL ASPECTS OF THE URBAN ENVIRONMENT. AS IT DEVELOPED, CITY PLANNING LAID STRESS ON THOSE ASPECTS OF THE URBAN ENVIRONMENT THAT IN THE COMMON INTEREST SHOULD BE IMPROVED AND THAT REQUIRED PROTECTION AND PROMOTION THROUGH GOVERNMENT ACTION.

THE REGULATION OF THE USE OF LAND AND BUILDINGS, OF THE DENSITY OF POPULATION AND OF THE HEIGHT, BULK, AND SPACING OF STRUCTURES BEGAN LONG BEFORE THE DEVELOPMENT OF MODERN CITY PLANNING. AS A TOOL DELIBERATELY USED TO PUT INTO EFFECT A COMPREHENSIVE SCHEME FOR LAND USE, HOWEVER, IT IS GENERALLY DATED FROM THE ADOPTION OF NEW YORK CITY'S FIRST COMPREHENSIVE ORDINANCE IN 1916. PARALLELING THE EVOLUTION



OF ZONING IN THE UNITED STATES WAS THE DEVELOPMENT OF SUBDIVISION CONTROLS: SUBJECTING THE INITIAL LAYING OUT OF VACANT LAND TO PUBLIC REGULATION. ZONING AND SUBDIVISION CONTROL OFFERED ADEQUATE CONTROLS OVER THE GROWTH OF NEW PARTS OF CITIES. IT WAS REALIZED, HOWEVER, THAT THEY WERE INSUFFICIENT TO CORRECT PAST MISTAKES, AND ESPECIALLY TO BRING ABOUT THE REBUILDING OF THE OBSOLETE PARTS OF CITIES.

IN ORDER TO CLEAR SLUMS AND TO PROVIDE ADEQUATE HOUSING FOR PERSONS UNABLE TO AFFORD PRIVATE HOUSING, PUBLICLY OWNED AND SUBSIDIZED HOUSING WAS DEVELOPED. PUBLIC HOUSING WITH FEDERAL AID BEGAN IN THE UNITED STATES IN THE 1930'S. MOST STATES AUTHORIZED THEIR CITIES TO CONDEMN AND CLEAR SLUMS AND BUILD PUBLIC HOUSING. THE 1940'S SAW AN INCREASING CONCERN WITH PLANNED REBUILDING OF OLDER AREAS, SUPPLEMENTED WITH FEDERAL AID FOR AN ATTACK UPON THE BLIGHT IN INTERMEDIATE AREAS. THE TERM URBAN RENEWAL WAS APPLIED TO THIS PROGRAM. URBAN RENEWAL HAS BEEN CRITICIZED AS 'URBAN REMOVAL' OF MINORITY GROUPS WITHOUT ADEQUATE PROVISION OF COMPARABLE HOUSING ELSEWHERE, AND FOR DESTROYING COMMUNITY LIFE. URBAN RENEWAL SUPPORTERS ARGUE THAT ALL OF THE CITY AND ALL PEOPLE WITHIN IT EVENTUALLY BENEFIT FROM SUCH PROGRAMS. THE HOUSING ACT OF 1954 SET UP A BASIS FOR COMBINED LOCAL ACTION WITH FEDERAL AID. THE OBJECTIVE WAS NOT ONLY TO CLEAR SLUMS BUT ALSO TO PREVENT THEIR CONTINUED GROWTH BY PLANNED ACTION IN THE WHOLE RANGE OF URBAN PROBLEMS, ALONG WITH THE REHABILITATION OF AREAS AFFLICTED WITH BLIGHT, BUT NOT BADLY ENOUGH TO REQUIRE CLEARANCE, AND THE CONSERVATION OF AREAS NOT YET SO ATTACKED. A KEY PART OF THIS NEW PROGRAM WAS THE REQUIREMENT THAT A LOCALITY HAVE A COMPREHENSIVE 'WORKABLE PROGRAM' FOR THE PREVENTION AND CURE OF SLUMS AND BLIGHT. NEW FEDERAL AIDS WERE ADDED, AND TWO NEW TYPES OF MORTGAGE INSURANCE WERE ENACTED TO IMPLEMENT THE NEW URBAN RENEWAL PROGRAM. UNDER THE EXPANDED URBAN-RENEWAL PROGRAM 780 COMMUNITIES HAD ACTIVE WORKABLE PROGRAMS BY THE END OF 1960. THE TREND OF FEDERAL HOUSING LEGISLATION AFTER 1932 WAS TOWARD INCREASING SCOPE AND COMPREHENSIVENESS. ANOTHER MAJOR STEP IN THIS DIRECTION WAS TAKEN BY THE PASSAGE OF THE HOUSING ACT OF 1961, WHICH CONTINUED AND IN SOME CASES EXPANDED EXISTING PROGRAMS IN HOUSING AND OVER-ALL COMMUNITY DEVELOPMENT. THE 1960'S HAVE WITNESSED BRISK ACTIVITY IN STATE AND METROPOLITAN PLANNING.

THIS ESSAY WAS ADAPTED FROM ENCYCLOPAEDIA BRITANNICA AND BRITANNICA JUNIOR ENCYCLOPAEDIA BY THEIR EDITORS, IN COOPERATION WITH THE AMERICAN LIBRARY ASSOCIATION.

**UNIVAC**

Division of SPERRY RAND CORPORATION



LIBRARY/USA  
UNITED STATES PAVILION  
NEW YORK WORLD'S FAIR 1964-65

APR. 28, 1965  
1:01 PM

THE AMERICAN LIBRARY ASSOCIATION IS DELIGHTED THAT YOU VISITED OUR LIBRARY. IN ANSWER TO YOUR REQUEST WE PRESENT THIS READING ON CITY PLANNING AND URBAN RENEWAL, PREPARED FOR ADULT READERS. IT TOOK THE UNIVA COMPUTER JUST FOUR SECONDS TO LOCATE THE LIST AND PRINT IT FOR YOU. THE AMERICAN LIBRARY ASSOCIATION INVITES YOU TO VISIT YOUR LOCAL LIBRARY FOR THESE AND OTHER BOOKS ON THIS SUBJECT.

THE AMERICAN CITY  
MONTHLY MAGAZINE CONCERNS ALL ASPECTS OF MUNICIPAL MANAGEMENT, ESPECIALLY PLANNING AND RENEWAL.

CITIES IN THE MOTOR AGE  
OWEN, WILFRED  
VIKING, 1959  
SUMMARIZES THE BEST THINKING ON TRANSPORTATION.

THE CITY FIGHTS BACK  
BURTON, HAL  
CITADEL, 1954  
SURVEYS PROGRESS BEING MADE NATIONALLY IN COMBATING PROBLEMS RISING FROM GROWTH.

COMMUNITY BUILDING: SCIENCE, TECHNIQUE, ART  
ARONOVICI, CAROL  
GENERAL INTRODUCTION STRESSES THE NEED TO CONSIDER THE INDIVIDUAL BEFORE THE TIGHTLY PLANNED COMMUNITY.

COMMUNITY LIFE AND SOCIAL POLICY  
WIRTH, LOUIS  
U. OF CHICAGO, 1956  
DISCUSSES LOCALISM, REGIONALISM, CENTRALIZATION AND URBANISM AS A WAY OF LIFE, FAVORING THE CITY.



THE CULTURE OF CITIES  
MUMFORD, LOUIS  
U. OF CHICAGO, 1956

ESSENTIAL TO GAINING A BROAD VIEW OF THE MEANING,  
FUNCTION, AND FAILURES OF URBAN CIVILIZATION.

THE EXPLODING METROPOLIS  
FORTUNE MAGAZINE  
DOUBLEDAY, 1961 -

A DEVELOPER DESCRIBES FACTORS AFFECTING A CITY'S  
GROWTH FROM AN INVESTOR'S VIEWPOINT.

GARDEN CITIES OF TOMORROW  
HOWARD, EBENEZER  
FABER, 1945

CLASSIC OF TOWN PLANNING FIRST PUBLISHED IN 1902.

GOD'S OWN JUNKYARD  
BLAKE, PETER  
HOLT 1964

WITH MANY PHOTOGRAPHS STRONGLY ATTACKS PUBLIC  
INDIFFERENCE TO OUR UGLY LANDSCAPES.

THE LANDLORDS  
RACHLIS, EUGENE  
RANDOM, 1963

DESCRIBES LAND DEVELOPERS WHO INFLUENCED CITY  
GROWTH, FROM ASTOR TO ZECKENDORF.

THE OTHER AMERICA  
HARRINGTON, MICHAEL  
MACMILLAN 1962

RELATES POVERTY TO URBAN CHANGE.

A PLACE TO LIVE  
U. S. DEPT. OF AGRICULTURE YEARBOOK 1963

SHOWS IMPACT OF INDUSTRIALIZATION AND URBANIZATION  
ON RURAL AREAS, ESPECIALLY THE ALARMING USE OF LAND  
AND WATER AND HOW REGULATION CAN HELP.

SICK CITIES  
GORDON, MITCHELL  
MACMILLAN 1963

PRESENTS SOME MENACING ASPECTS OF RAPID CITY GROWTH.

TWO-THIRDS OF A NATION  
STRAUS, NATHAN  
KNOPF 1952

THE FIRST FHA ADMINISTRATOR CONSIDERS HOUSING  
NEEDS OF THOSE EARNING LESS THAN EIGHTY DOLLARS A WEEK.

THIS LIST WAS PREPARED BY THE DEPARTMENT OF PUBLIC  
LIBRARIES, MONTGOMERY COUNTY, MARYLAND, IN COOPERATION  
WITH THE ADULT SERVICES DIVISION OF ALA.

**UNIVAC**

Division of SPERRY RAND CORPORATION



LIBRARY/USA  
UNITED STATES PAVILION  
NEW YORK WORLD'S FAIR 1964-65

APR. 28, 1965  
1:03 PM

THE AMERICAN LIBRARY ASSOCIATION IS DELIGHTED THAT YOU VISITED OUR LIBRARY. THE FOLLOWING ESSAY IS PRESENTED IN ANSWER TO YOUR REQUEST FOR INFORMATION ON THE SUBJECT OF ARCHITECTURE AT THE ADULT LEVEL. IT TOOK THE UNIVAC COMPUTER JUST FOUR SECONDS TO LOCATE THE TEXT AND PRINT IT FOR YOU. THE AMERICAN LIBRARY ASSOCIATION INVITES YOU TO VISIT YOUR PUBLIC LIBRARY FOR FURTHER INFORMATION ON THIS AND OTHER SUBJECTS.

TYPES OF ARCHITECTURE ARE ESTABLISHED NOT BY ARCHITECTS, BUT BY SOCIETY, ACCORDING TO THE NEEDS OF ITS DIFFERENT INSTITUTIONS.

THE INDUSTRIAL REVOLUTION PRODUCED A REVOLUTION IN HOUSE DESIGN ALL OVER THE WESTERN WORLD, ESPECIALLY IN TOWNS AND CITIES. THE INFLUENCES AT WORK INCLUDED INCREASED LAND VALUES BECAUSE OF SUDDEN CITY GROWTH, CONGESTION OF POPULATION, AND A GENERALLY RISING STANDARD OF COMFORT. THE AREA FOR MOST FAMILIES DIMINISHED, WHILE THE NUMBER AND DIFFERENTIATION OF ROOMS INCREASED. AN INEVITABLE RESULT WAS THE COMPLETE ALTERATION OF THE APPEARANCE OF MODERN CITIES BECAUSE APARTMENT OR TENEMENT DWELLINGS, TO A LARGE EXTENT, REPLACED THE INDIVIDUAL HOUSE. AFTER WORLD WAR II THERE WAS A VAST AMOUNT OF CONSTRUCTION OF MULTISTORY BUILDINGS IN URBAN AREAS AND ENORMOUS DEVELOPMENTS OF HOUSES AND APARTMENTS IN SUBURBAN AREAS. THE CONSTRUCTION OF APARTMENT BUILDINGS IN SUBURBS WAS ALMOST ENTIRELY A 20TH CENTURY DEVELOPMENT, A RESULT PRIMARILY OF LACK OF ADEQUATE URBAN SITES AT ECONOMICALLY FEASIBLE PRICES. BECAUSE OF THE AVAILABILITY OF LARGE TRACTS OF COMPARATIVELY INEXPENSIVE GROUND, SUBURBAN SITES MADE POSSIBLE THE PROVISION OF MANY AMENITIES NOT POSSIBLE IN COSTLY URBAN CENTERS, SUCH AS LARGE OPEN AREAS AND ADEQUATE PARKING FACILITIES.

ARCHITECTURALLY, INDUSTRIAL BUILDINGS CAN BE SAID TO HAVE HAD THE FOLLOWING SEQUENCE OF PHASES: WATER POWER WAS PARALLELED BY BUILDINGS IN WOOD AND STONE; STEAM POWER BY CONSTRUCTIONS IN BRICK AND METAL, AT FIRST CAST AND WROUGHT IRON, LATER STEEL; ELECTRIC



POWER BY REINFORCED CONCRETE CONSTRUCTION. TWO OF THE MOST NOTABLE DEVELOPMENTS IN INDUSTRIAL BUILDING SINCE 1900 HAVE BEEN THE DESIGNING OF EXTENSIVE ONE-STORY PLANTS TO MEET THE GREAT CHANGES IN PRODUCTION METHODS AND THE DISPERSION OF FACTORY SITES FROM TOWN TO OPEN COUNTRY, CHIEFLY BECAUSE OF LAND COSTS AND INCREASED USE OF ROAD TRANSPORT.

THE WIDESPREAD GROWTH OF REPRESENTATIVE GOVERNMENT AND THE INCREASE IN THE SIZE AND FUNCTIONS OF THE STATE IN THE 19TH CENTURY CREATED A GREAT VARIETY OF BUILDINGS, SOME FOR ENTIRELY NEW USES. BUREAUCRACY HAS MADE GOVERNMENTAL ARCHITECTURE MORE IMPORTANT THAN AT ANY TIME IN HISTORY. TOWN AND CITY HALLS IN THE U.S. REFLECT THEIR REGIONAL ENVIRONMENTS. PERHAPS NEW YORK CITY SHOWS THE EVOLUTION OF THE CITY HALL BETTER THAN ANY OTHER MUNICIPALITY. BY 1802, THE DEMAND FOR AN ADEQUATE CITY HALL RESULTED IN THE ERECTION OF AN EXQUISITE STRUCTURE, LONG OUTGROWN BUT STILL IN USE. WITH THE GROWTH OF THE CITY, NEW AND BIGGER QUARTERS WERE CALLED FOR, AND THE SOLUTION WAS THE NEW YORK MUNICIPAL BUILDING, A SKYSCRAPER OF 23 STORIES. SOMETIMES CITIES AND COUNTIES UNITE TO ERECT A CITY-COUNTY BUILDING. SOMETIMES THE CITY HALL IS THE KEY STRUCTURE IN A CENTRAL SQUARE OR PARK. THE HUGE CITY HALL IN SAN FRANCISCO IS A PART OF THE CIVIC CENTER. THE CONCEPT OF THE CIVIC CENTER IS AN OUTGROWTH OF THE SIMPLER TOWN SQUARE, AND HAS FOUND WIDE ACCEPTANCE IN U.S. CITIES. THE MODERN COURTHOUSE, IN ITS ESSENTIAL ELEMENTS, HAS REMAINED ALMOST AS CLOSE TO ITS TRADITIONAL ANCESTRY AS HAS THE MODERN COURT SYSTEM. THE MONUMENTAL LOBBY, THE COURTROOMS, ARCHIVES AND ROOMS FOR JUDGES, LAWYERS AND WITNESSES WERE FOUND ALSO IN THE COURTHOUSE OF THE 15TH CENTURY.

THE CHARACTERISTICS OF EDUCATIONAL ARCHITECTURE DEPEND ON THE CHARACTERISTICS OF THE EDUCATION FOR WHICH IT IS DESIGNED. THE ENVIRONMENT NEEDED FOR SCHOOL CHILDREN IN THE SECOND HALF OF THE 20TH CENTURY IS RADICALLY DIFFERENT FROM THAT AT THE BEGINNING OF THE CENTURY. AS STRIDES HAVE BEEN MADE TO PROVIDE MORE EDUCATIONAL OPPORTUNITIES FOR GREATER NUMBERS OF CHILDREN, LARGE EDUCATIONAL BUILDING PROGRAMS HAVE BECOME WIDESPREAD. AS SCHOOLS CAME TO INCLUDE MORE STUDENTS SEEKING TRAINING IN SCIENCE, NEW KINDS OF CLASSROOMS BECAME NECESSARY. SINGLE-STORY STRUCTURES PREVAILED, WITH LARGE PLAYGROUNDS, ATHLETIC FIELDS, PARKING AREAS AND LANDSCAPED LAWNS.

THIS ESSAY WAS ADAPTED FROM ENCYCLOPAEDIA BRITANNICA AND BRITANNICA JUNIOR ENCYCLOPAEDIA BY THEIR EDITORS, IN COOPERATION WITH THE AMERICAN LIBRARY ASSOCIATION.