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TOPOGRAPHY AND URBAN FORM

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ABSTRACT

TOPOGRAPHY AND URBAN FORM

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MAN IS MORE DRASTICALLY CHANGING THE FACE OF THE EARTH; ALSO HIS STRUCTURES ARE BEGINNING TO CHALLENGE THOSE WHICH NATURE PROVIDES. THE CITY IS, AND WILL CONTINUE TO BE, THE LARGEST OF THESE STRUCTURES. THE RELATIONSHIP OF THE CITY TO THE LANDFORMS IS CHANGING BECAUSE SOME OF THE BASIC REASONS FOR THEIR IMPORTANCE TO THE CITY HAVE CHANGED. AND FUNCTIONALLY A MUCH GREATER FREEDOM EXISTS FOR BOTH THE LOCATION AND THE FORM OF THE URBAN AGGLOMERATION. THUS A NEW RESPONSIBILITY EXISTS AS WELL. THIS RESPONSIBILITY INVOLVES A NEW APPRAISAL AS TO WHAT LANDFORMS MEANT TO MAN AND HIS URBAN FORM IN THE PAST AND AN ANALYSIS OF WHAT QUALITIES THEY HAVE WHICH CAN BE BENEFICIAL TO THE CITY TODAY. IN SHORT, HOW THEY CAN BE EMPLOYED AS DESIGN ELEMENTS.

THIS PROBLEM OF THE CHANGING SCALE OF MAN'S ACTIVITIES HAS BEEN VOICED BY MANY WRITERS FROM MANY DIFFERENT FIELDS AND HAS BEEN OF SPECIAL CONCERN SINCE THE TURN OF THE CENTURY. THEIR VIEWS HAVE BEEN BOTH OF MAN'S INFLUENCE ON THE EARTH ITSELF AND, OF GREATER CONCERN, THE SIGNIFICANCE OF NATURAL LAND FEATURES WHICH MAN HAS OR HAS NOT RECOGNIZED IN GIVING A CHARACTER AND DISCIPLINE TO THIS URBAN FORM.

IN ORDER TO UNDERSTAND THE PRESENT AND PROPOSE FOR THE FUTURE IN MAN'S USE OF THE EARTH FORM AS IT RELATES TO HIS URBAN FORM, ONE MUST KNOW WHAT FACTORS HAVE CHANGED. MAN'S CLOSE IDENTIFICATION WITH THE EARTH BEGAN IN THE EARTH ITSELF, THE CAVE, AS HIS FIRST PERMANENT SHELTER. UNTIL THE RELATIVELY RECENT TIMES, TOPOGRAPHY REMAINED UNTHREATENED AS THE MAJOR THREE-DIMENSIONAL ELEMENT BOTH OF HIS EVERYDAY NOMADIC LIFE
AND LATER HIS URBAN ENVIRONMENT. HE DEPENDED ON LAND FEATURES
FOR GUIDING HIS TRAILS, ORIENTING HIM TO HIS HUNTING GROUNDS,
OBSERVATION AND PROTECTION FROM HIS ENEMY, AND EVEN SERVING AS
THE BASIS OF HIS RELIGIOUS BELIEFS. IF THE URBAN PLANNER CAN IN-
JECT SOME OF THIS SIMPLICITY IN APPROACH INTO THE COMPLEXITY OF
THE CITY, THOSE SURVIVING ELEMENTS OF THIS SIMPLICITY MAY SUGGEST
A FRAMEWORK FOR PRESENT AND FUTURE TOWN-BUILDING.

TOPOGRAPHY HAS SINCE SLOWLY BECOME A PASSIVE AGENT; IT
PERMITS, BUT IT NO LONGER COMPELS. INDUSTRIALIZATION HAS
OVERCOME THE FUNCTIONAL LIMITATIONS, NOW IT IS MAN'S STRUCTURES
WHICH ATTEMPT TO GIVE FORM TO THE URBAN ENVIRONMENT. THE
ONLY MEANS HE HAS TO RETAIN A SEMBLANCE OF THE NATURAL WORLD
IN THE EVER INCREASING SCALE AND ARTIFICIALITY OF THE URBAN FORM
UNRELATED TO IT IS TO VISUALIZE A NEW URBAN FORM AS A RECOGNITION,
APPRAISAL, EXPRESSION, AND REINFORCEMENT OF THE CHARACTERISTIC
TOPOGRAPHICAL FEATURES IN HIS PARTICULAR URBAN ENVIRONMENT, AN
APPROACH TO CITY BUILDING AS AN ART OF THE PLACE RATHER THAN AS
A TECHNIQUE.

THE DEMONSTRATION ILLUSTRATES THE EXISTING AND THE POSSIBLE
ROLE OF TOPOGRAPHY IN THE URBAN ENVIRONMENT OF DUBUQUE, IOWA.
IT CONSISTS OF TWO PHASES: FIRST, A HISTORICAL AND CRITICAL
TOPOGRAPHIC SURVEY EXAMINING THE INFLUENCE OF THE TOPOGRAPHICAL
FEATURES IN ITS PRESENT COMPOSITION; A PROPOSAL IN VIEW OF CHANG-
ING TECHNOLOGY EMPLOYING THE TOPOGRAPHIC FEATURES AS A NEW FRAME-
WORK.
THE PROBLEM
TOPOGRAPHY AND URBAN FORM

CONTENT:

1 THE PROBLEM................................. 1
2 OTHER VIEWS................................. 9
3 TOPOGRAPHY AND URBAN FORM IN HISTORY............. 31
4 ANALYSIS: RECOGNITION AND APPRAISAL............... 103
5 DEMONSTRATION.............................. 146

REFERENCES........................................ 168

BIBLIOGRAPHY...................................... 173
NATURE GENERALLY OPERATES THROUGH STEADY ACCUMULATION

OF SMALL AMOUNTS OF WORK OVER LARGE AREAS. IN CONTRAST, MAN'S WORK, STRUCTURES AND EARTHFORMS, IS LOCALLY CONCENTRATED.

IN THE PAST HUMAN POWER AND LIMITED TECHNOLOGY WAS ABLE TO AFFECT THE LANDSCAPE ONLY TO A SMALL DEGREE.

HUMAN ACTIVITIES CONSTITUTE AN INCREASINGLY IMPORTANT AGENCY OF LANDSCAPE CHANGE. WHERE SUCH MODIFICATIONS BECAME PERCEPTIBLE THEY MAY BE CONSIDERED MAN-MADE FORMS; THEY ARE COVERING AN EVER-LARGER AREA OF THE SURFACE OF THE EARTH. THE NETHERLANDS, REPRESENTING A CREATION OF MORE THAN A THOUSAND SQUARE MILES OF LAND, IS ONE OF THE LARGEST DELIBERATELY FASHIONED MAN-MADE LANDFORMS. BUT MAN'S USE OF LANDFORMS HAS BEEN GENERALLY MORE AFFECTED BY THE CONFIGURATION OF THE SURFACE THAN BY ITS ACTUAL ELEVATION.

LANDFORMS

MAXIMUM

SCALE

LANDFORMS

MINIMUM

THE CAVE

THE CITY

MAN'S STRUCTURAL FORMS
ARTIFICIAL LANDFORMS

TIME
BUT THIS DISTINCTION IS BECOMING LESS AND LESS DEFENSIBLE AS CITIES CUT, LEVEL, AND FILL FOR RESIDENTIAL, INDUSTRIAL, RECREATIONAL AND VEHICULAR COMMUNICATION PURPOSES.

MAN CAN NOW SERIOUSLY CHALLENGE THE FORMS OF NATURE EVEN TO THE EXTENT THAT HE CAN CREATE HIS OWN LANDSCAPE WITH HIS STRUCTURES. ONLY THE MOUNTAIN REMAINS AS YET LARGELY UNCONQUERED EXCEPT BY MAN ON FOOT; LESS GIGANTIC FEATURES BECOME MORE AND MORE SUBJECT TO ALTERATION. IT IS NOT RECOGNIZED THAT MANHATTAN ISLAND HAD VERY DEFINITE LAND FEATURES. THEY WERE IGNORED BY THE GRID AND SUBDUED BY THE SKYSCRAPER.

OF SPECIFIC LANDFORMS. THEY ARE NOT TODAY FOR THE SAME REASONS.
THEY ARE IMPORTANT BECAUSE THEY ARE YET DESIGN DETERMINANTS;
THEY SUGGEST A NEW DISCIPLINE. YET AT THE SAME TIME CITY FORM,
CITY SIZE, AND CITY LOCATION FACTORS HAVE BECOME, AND WILL BECOME,
EVEN MORE FLEXIBLE; WHERE THE FREEDOM DID EXIST BEFORE—FLATLAND—
MAN WAS LEFT ON HIS OWN TO DEVISE NEW FORMAL PATTERNS, A SELF—
IMPOSED RESTRICTION TO ACHIEVE AN ORDERED ENVIRONMENT.

NOW MAN HAS FOUND HIMSELF WITH A NEW, ALMOST UNIVERSAL
FREEDOM IN TOWN BUILDING. THE TOPOGRAPHY HAS BECOME MORE
PASSIVE, NOT ACTIVE. NOW IT CANNOT COMPEL; IT CAN SUGGEST AND
PERMIT. IT IMPLIES A NEW RESPONSIBILITY, ETHICS RATHER THAN
ECONOMICS. THE ARTIFICIAL TOPOGRAPHY OF MOST CITIES TODAY
NEITHER EXPRESSES THAT OF THE LAND OR OF A RESPONSIBLE MAN-MADE
ONE.

THE HUMAN BEING HAS ALWAYS SEARCHED FOR, AND IN RELATIVE
DEGREES MAINTAINED, AN ORDER IN HIS ENVIRONMENT WHETHER IT
BE THE BUILDING OF HUTS AND THEIR LOCATION ALONG A STREAM OR
PARKING AUTOS IN A SHOPPING CENTER LOT. EVEN MORE SO HE REQUIRES
AN URBAN FORM, THE VISUAL SHAPE OF CONTENT, WHICH REFLECTS SOME
ORGANIZATION—A CITY FORM THAT HE CAN COMPREHEND AND VISUALLY
RECOGNIZE, BOTH AS A WHOLE AND AS A NUMBER OF RELATED PARTS AND

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ONE IN WHICH HE CAN ORIENT HIMSELF. IT SHOULD BE SOMETHING THAT IS DESCRIBABLE; CHAOS IS HARDLY A PERCEIVABLE DESCRIPTION.

ONCE THE CITY COULD BE DESCRIBED IN REFERENCE TO "THE HILTOP", "THE HILLSIDE", "THERE IN THE VALLEY", OR "INSIDE THOSE WALLS"—ALL COULD BE SEEN WITHIN THE LARGER CONTEXT. TODAY ITS LIMITS, IF THEY EXIST, CAN BE SEEN ONLY FROM THE TALLEST STRUCTURE ON A CLEAR DAY.

THE URBAN SITE APPEARS AS ONE OF TWO TYPES: FIRST, THOSE OF THREE DIMENSIONAL CHARACTER—THOSE SITES WHICH CONTAIN SOME SIGNIFICANT NATURAL LAND-FEATURES: HILLS, MOUNTAINS, BLUFFS, RAVINES, BUTTES, VALLEYS, ETC. ---THEY ALREADY HAVE A FORM; SECOND THOSE OF TWO-DIMENSIONAL CHARACTER—FLAT LAND. THEY ACQUIRE THREE-DIMENSIONAL CHARACTER (FORM) ONLY WHEN OBJECTS ARE PLACED ON THEM. THEREFORE, LAND WITH NATURAL FEATURES INCORPORATE INNUMERABLE POTENTIAL CHANGES; EXPANSIVE FLAT LAND INCORPORATES A CONSTANT POINT OF DATUM. EVEN THE RIVER, TIED TO THE UNIVERSAL SEA LEVEL, EXPRESSES A DATUM CHANGE BY ITS MOVEMENT, ITS CURRENT. FLAT TERRAIN GIVES NO VERTICAL CHANGE IN POSITION (AN INCREASE, OR DECREASED IN POTENTIAL OR PSYCHOLOGICAL ENERGY) UNLESS ALTERED.
WITH THE FIRST, THE CITY ALREADY HAS A STARTING POINT; IT IS THEN A MATTER OF PLACING AN ORDERED THREE-DIMENSIONAL CITY INTO A THREE-DIMENSIONAL LANDSCAPE. WITH THE SECOND MAN CAN CREATE HIS OWN THIRD DIMENSION IN ADDING AN ORDERED THREE-DIMENSIONAL CITY TO A TWO-DIMENSIONAL LANDSCAPE.


TOPOGRAPHY, LANDFORMS, PROVIDE AN ORGANIZING CONTEXT IF MAN SO CHOOSES TO EXPRESS AND INTENSIFY THEM WITH HIS URBAN FORMS. THEY ALREADY HAVE A HIGH DEGREE OF ORGANIZATION AS A RESULT OF THE CONSTANT FORCES OF NATURE. BUT MAN MUST FIRST RECOGNIZE AND APPRAISE THEM AS ADVANTAGES IN SITE-SPACE AND SITE-STRUCTURE RELATIONSHIPS, THEN BEGIN HIS CITY-BUILDING.

HIS OWN FORMS PROVIDE THIS ORGANIZING CONTEXT IF NOTHING IS SUGGESTED BY LAND FEATURES, AS IN THE MEGA-STRUCTURE CITY. THEN ARTIFICIAL EARTH FORMS MAY EXPRESS AND INTENSIFY THESE. THUS THE ARTIFICIAL FORM OF THE CITY BECOMES MORE NATURAL.
(In featured terrain) to relate to landforms; the natural form of the terrain (in flat terrain) becomes more artificial to relate to city form. The city association with the land becomes not one of meeting, but one of involvement. The merits of compatibility between town and terrain are not limited to particular times and particular places. The sense of "rightness" is always valid.

Much thinking needs to be done in applying the rapidly changing technical progress to the relationship between the land and the city. A basic outlook from the standpoint of topographic relation is one means of visualizing the changing urban environment—man's most concentrated physical form. It is not proposed as the only means nor necessarily the most critical one; there is no one determinant of urban design, but it is the most basic one; it is also a refreshing and complex approach in examining the urban form.

If man is eventually going to have to live in demanding environment—one of large scale, mechanization, and efficiency—then what happens in and to the community must become more closely allied with nature. And a close topography—city relationship is one basic means.
BEFORE WE CONVERT OUR TOPOGRAPHY INTO ONE SPREADING MASS
OF LOW-GRADE URBAN TISSUE, UNDER THE DELUSION THAT BECAUSE
WE ACCOMPLISH THIS DEGRADATION WITH THE AID OF BULLDOZERS,
ATOMIC PILES, AND ELECTRONIC COMPUTERS, WE ARE ADVANCING
CIVILIZATION, WE MIGHT ASK WHAT ALL THIS IMPLIES IN TERMS OF
THE HISTORIC NATURE OF MAN IN HIS USE OF TOPOGRAPHY OF A
DESIGN ELEMENT. SOME ASPECTS OF HIS SIMPLE NATIVE APPROACH
MAY HAVE APPLICATION TODAY.
OTHER VIEWS
CONCERN FOR, AND EXPRESSION OF, OPINION ABOUT MAN'S USE
OF NATURAL FEATURES AND THE WORK OF THE THREE-DIMENSIONAL
URBAN FORM IN PARTICULAR SHOW EVIDENCE OF INVOLVEMENT WITH
THE QUESTION THROUGHOUT HISTORICAL TIMES. THEY HAVE COME
FROM A BROAD RANGE OF OCCUPATIONAL CATEGORIES: STATESMEN,
PHILOSOPHERS, ARCHITECTS, GEOGRAPHERS, FORESTERS, LANDSCAPE
ARCHITECTS, AND URBAN PLANNERS.

FOR GEORGE PERKINS MARSH, NEW ENGLANDER, U.S. STATES¬
MAN, AND SCHOLAR, WRITING IN THE EARLY 1800S, MAN IS NOW
A DYNAMIC FORCE, OFTEN IRRATIONAL IN HIS TREATMENT OF THE
ENVIRONMENT. ONE OF HIS MAIN OBJECTIVES IS TO SHOW THAT, FAR
FROM BEING WILL-LESS AND IMPOTENT, MAN IS NOW A FREE AGENT
WORKING INDEPENDENTLY OF NATURE; IT IS NO LONGER THE EARTH THAT
MAKES MAN, BUT MAN WHO MAKES THE EARTH. BY UNDERSTANDING
THE NATURE OF HIS IMPACT ON THE ENVIRONMENT MAN MIGHT LEARN
TO ADAPT TO OR CHANGE THE FACE OF THE EARTH IN A RATIONAL,
CONSTRUCTIVE FASHION.
HIS MAN AND NATURE, WHILE NOT SPECIFICALLY CONCERNING URBANISM, WAS THE FIRST GREAT WORK OF SYNTHESIS IN THE MODERN PERIOD TO EXAMINE IN DETAIL MAN'S ALTERATION OF THE FACE OF THE GLOBE.

ANOTHER IMPORTANT CONTRIBUTION TO THE THEME OF MAN'S INFLUENCE ON THE WORLD WAS ALEXANDER IVANOVICH WOEIK (1842-1914) PROFESSOR OF PHYSICAL GEOGRAPHY AT THE UNIVERSITY OF ST. PETERBURG IN RUSSIA. HE EXPRESSED HIS DISTRESS AT THE EXPANSION OF URBAN AREAS:

THIS GROUPING IN CITIES, UNDER CONDITIONS UNHEALTHY TO BODY AND MIND, THE DISASSOCIATION OF MAN AND THE EARTH IS PROOF OF A SICKLY STATE.¹

IN ENGLISH-SPEAKING WORLD MARSH HAD NO SUCCESSOR UNTIL NATHANIEL SOUTHGATE SHALER, PROFESSOR OF GEOLOGY AT HARVARD UNIVERSITY, TOOK UP THE THEME OF MAN'S ACTIVITIES IN HIS BOOK MAN AND THE EARTH IN 1905. HIS PLEA WAS THAT OF A CONSERVATIONIST AND LIKE MARSH HIS WRITINGS CONTAINED A MORAL TONE:

WE MAY BE SURE THAT THOSE WHO LOOK BACK UPON US AND OUR DEEDS FROM THE CENTURIES TO COME WILL REMARK UPON THE MANNER IN WHICH WE USE OUR HERITAGE AND THEIRS, AS WE ARE NOW DOING, IN THE SPENDTHRIFTS WAY, WITHOUT CARE FOR THOSE TO COME.²

HE GOES ON TO DISCUSS THE DESTRUCTION OF SOIL AS A RESULT OF THE PROBLEMS OF A RAPIDLY EXPANDING POPULATION. HE ALSO
TURNED TO THE POSSIBILITY OF EXPANDING URBANIZATION INTO THE
UNWON LANDS OF THE EARTH. BRAZILIA, THE ISOLATED NEW CAPITAL
OF BRAZIL, NOW ILLUSTRATES HIS POINT.

JEAN BRUNHES, PUBLISHED HIS GEOGRAPHIE HUMAINE IN
1910. HE DESCRIBED AND ANALYZED THE MANY PATTERNS OF MAN’S
OCCUPANCY OF THE EARTH AS EXPRESSED IN HOUSING TYPES, IN
VILLAGE AND TOWN SITES, AND CHANGING FORMS OF COMMUNICATION.

IN GERMANY, PAUL SCHULTZE-NAUMBURG (1928) CONSIDERED THE
CHANGES TO THE SURFACE OF THE EARTH BY MAN’S CULTURAL WORKS;
HIS THEME EXPLORED THE CONFLICT BETWEEN ECONOMICS AND ETHICS,
ASKING WHETHER IT IS "PARAMOUNT TO DESTROY THE BEAUTY OF THE LAND,
WHICH THE CITY CAN EXPRESS, TO STEP UP PROFIT IF IN THE END IT’S
THE DISADVANTAGE OF THE GENERAL AND NATIONAL WELL-BEING."

EDWIN FELS, PROFESSOR OF GEOGRAPHY AND DIRECTOR OF THE
GEOGRAPHICAL INSTITUTE IN THE FREE UNIVERSITY OF BERLIN, HAS
CONSISTENTLY DEVELOPED THE THEME OF MAN AND THE EARTH:

THAT MAN IS INCLINED BY SENTIMENT AND HABIT TO CONSIDER HIS
EARTH TRANSFORMING FORCE AS SMALL IN COMPARISON WITH NATURE’S.
THIS SELF-UNDERESTIMATION HAS BEEN JUSTIFIED IN THE PAST BUT
IS NOT IN THE PRESENT. HOWEVER SMALL THE PHYSICAL STRENGTH
OF THE INDIVIDUAL MAN MAY BE, IT IS TREMENDOUS WHEN POOLED
AND GUIDED BY THE HUMAN MIND. AND THE PROCESS HAS INCREASED
RAPIDLY SINCE ABOUT 1800, WHEN MAN ENTERED THE MACHINE AGE
AND HUMAN STRENGTH MULTIPLIED THROUGH MECHANIZATION
TECHNIQUES.³
THE MOST STRIKING SYMBOL OF THE NEW SCALE IN TIME AND
SPACE THAT HAS BEEN BROUGHT INTO BEING SINCE THE TIME OF MOST
OF THESE MEN IS THE AIRPLANE. THE VIEW FROM THE AIR THAT IT
HAS PROVIDED, THE ABILITY TO LOOK DOWN ON THE URBAN FORM IN
A NEW PERSPECTIVE, HAS BEEN AN ADDITIONAL GREAT STRIDE TOWARD
SYNTHESIS OF CITY FORM. THE WHOLE FIELD OF HUMAN ACTIVITIES
AND OF NATURE’S GIFTS AND REFUSALS COMES INTO VIEW, RANGING
FROM THE MOST PRIMITIVE TO THE MOST UP-TO-DATE INTERFERENCE
WITH NATURE, FROM UNCONSCIOUS, ISOLATED, AND SMALL-SCALE
ACTIVITIES TO THE CONSCIOUS REMAKING OF THE ENVIRONMENT IN
VAST PARTS OF THE WORLD.

AS LONG AS MAN WAS DEEPLY IMBEDDED IN NATURE AND EVERY
NATURAL PHENOMENON HAD A SYMBOlic SIGNIFICANCE, THE MAN-
ENVIRONMENT RELATIONSHIP WAS MORE A MUTUAL ADAPTATION THAN
A ONE-SIDED CONQUEST OF NATURE BY MAN.

THE CONTEMPORARY REGIONAL PLANNER, BENTON MACKAYE,
IN HIS NEW EXPLORATION, MORE THAN ANYONE ELSE IN OUR TIME
HAS POINTED OUT MORE CLEARLY THE TERMS UPON WHICH MODERN
MAN, AND IN PARTICULAR, THE AMERICAN PEOPLE, MAY OCCUPY THE
EARTH AND JUDICIOUSLY USE ITS NATURAL URBAN RESOURCES, WITHOUT
MAKING THE LAND ITSELF UNINHABITABLE AND THEIR OWN LIVES UNENDURABLE;
IT WAS MORE THAN A BACK-TO-NATURE IDEA; IT WAS AN ATTACK ON THE CITY:

IN SPEAKING OF THE AMORPHOUS URBAN SPRAWL HE STATES:

THESE MASSINGS AND FLOODS OF WATERS FOLLOW CLOSELY THE LAW OF GRAVITATION IN THE TOPOGRAPHY. IN LEVEL COUNTRY, LIKE THE PRAIRIE AROUND CHICAGO, THEY JUST SPREAD OUT IN AN EVER-WIDENING DISK. IN HILL COUNTRY THEY CREEP THROUGH THE VALLEYS OR ALONG THE SHORE LINES COALESCEING IN LINEAR BANDS AS UP THE HUDSON VALLEY OR ALONG THE SHORE BETWEEN BRIDGEPORT AND NEW HAVEN. THEY SUBMERGE WHATEVER STANDS IN THEIR ADVANCING PATH, WHETHER VILLAGE OR OPEN COUNTRY. THUS THE HILL VILLAGE RETAINS ITS INTEGRITY AS A COMMUNITY ONLY SO LONG AS THE TIDE REMAINS BELOW, BUT TOO OFTEN IT HAS, LIKE ITS SISTER VILLAGE IN THE VALLEY, BEEN OVERPOWERED BY THE CREEPING MASS AND DROWNED BENEATH ITS WATERS.

THIS NEW WORLD IS THE METROPOLITAN WORK. IT IS A WORLD WITHOUT A COUNTRY. ITS REACTION IS BORN NOT OF NATURE'S SOIL, BUT A ARTIFICIALITY; THEY ARE REVERSE TO THE REACTION OF THE NATURAL NORMAL SPHERE. INSTEAD OF MEANS BEING ADAPTED TO ACHIEVE ENDS, THE ENDS ARE DISTORTED TO FIT ESTABLISHED MEANS.

MAC KAYE VIEWS THE PROBLEM OF URBANIZATION AS ONE WHICH MUST SOMEHOW INCORPORATE THE QUALITIES WHAT HE TERMS THE INDIGENOUS WORLD INTO THE METROPOLITAN WORLD. HIS INDIGENOUS WORLD IS COMPOSED OF NATURAL RESOURCES:

MATERIAL RESOURCES: NATURAL EARTH FORMS, FORESTS, ETC.
ENERGY RESOURCES: MECH. ENERGY RESIDENT IN NATURAL ELEMENTS SUCH AS FALLING WATER.
PSYCHOLOGIC RESOURCES: HUMAN ENERGY RESIDENT IN A NATURAL SETTING OR ENVIRONMENT.

MAC KAYE'S PROPOSAL IS A BROAD ONE, BUT IT REFLECTS A 20TH
CENTURY ATTITUDE FOR THE FUTURE WHICH IN MANY RESPECTS

REFLECTS THOSE QUALITIES OF THE SMALL ITALIAN HILL TOWN AND

MEDITERRANEAN CASTLE-TOWN:

OUR PARTICULAR GOAL IS TO GUIDE THE FLOW OF POPULATION INTO SOME FORM OF INDIGENOUS MOLD (THE ENVIRONMENT OF REAL LIVING) AND TO DETER IT FROM ANY FORM OF THE METROPOLITAN MOLD (THE ENVIRONMENT OF MERE EXISTENCE). THIS GOAL PRESENTS DOUBLE TASK: ONE TASK CONSISTS IN ESTABLISHING THAT PORTION OF ENVIRONMENT WHICH WE HAVE CALLED THE SETTING; THE OTHER CONSISTS IN DEVELOPING THAT PORTION CALLED ACTIVITY --THE NATURAL LAND FORMS AND THE ARTIFICIAL CITY FORM.7

FRANCOIS DE PIERREFEU IN THE HOME OF MAN HAD DEFINITE BUT CURIOUS THOUGHTS ON THE URBAN FORM AND THE TOPOGRAPHY:

...URBANISTS GENERALLY AGREE 50 METERS, 160', IS REASONABLE HEIGHT FOR AN APARTMENT BUILDING. IT RELATES TO THE 50 METERS WHICH IS ABOUT THE HEIGHT OF THE SLOPES BORDERING THE AVERAGE VALLEY DOWN WHICH A RIVER MEANDERS; SUCH ALSO IS THE GENERAL LIMIT GOVERNING MONASTIC FOUNDATIONS WHICH HAVE SUCCESSFULLY RESISTED THE ONSLAUGHT OF CENTURIES. HERE IS A RULE THEN THAT MIGHT WELL REMAIN VALID IN OUR TIMES SINCE IT ONCE MORE INVITES MEN TO THINK BEFORE THEY ACT.8

THE FACT IS, THAT FROM NOW ON, A WORKING-CLASS TOWN NO LONGER NEEDS BE CONTRACTED INTO A BALL AROUND A HARBOR OR RAILWAY TERMINUS NOR REVOLVE AIMLESSLY WITHIN A CAPITAL ORBIT. IT WILL HAVE THE RIGHT TO STRETCH, TO BECOME LINEAR, TO SPLIT UP INTO SEGMENTS, MAKING POSSIBLE NEW LAND-CITY RELATIONSHIPS.9

IN HIS CITY OF TOMORROW, LE CORBUSIER WROTE EXTENSIVELY OF URBAN FORMS AND LAND FORMS AND HE UNEQUIVOCALLY STATES:

A LEVEL SITE IS THE IDEAL SITE. IN ALL THOSE PLACES WHERE TRAFFIC BECOMES OVER-INTENSIFIED THE LEVEL SITE GIVES CHANCE OF A NORMAL SOLUTION TO THE PROBLEM; WHERE THERE IS LESS TRAFFIC, DIFFERENCES IN LEVELS MATTER LESS.10
LE CORBUSIER THEORY

...CIRCULATION THE DETERMINANT.
...INDEPENDENT OF EVERY TERRAIN, YET EACH SITE DEMANING OF ITS OWN ADAPTATIONS ON THIS STANDARD THEME.
THE "INTERESTING" OR ERRATIC SITE ABSORBS EVERY CREATIVE
FACULTY OF THE ARCHITECT AND WEARS HIM OUT.\textsuperscript{12}

BUT HE DOES NOT IGNORE THE FACT THAT LAND FORMS EXIST AND
SOMETIMES APPEARS QUITE CONCERNED AND ENTHUSIASTIC ABOUT THEM:

THE ANALYSIS OF A CITY BELONGS TO THE REALM OF SCIENTIFIC
INVESTIGATION, ITS COMPOSITION BEING COHERENT ENOUGH TO
DETERMINE ITS GUIDING PRINCIPLES; THIS COMPOSITION SHOULD
COME FROM ITS PARTICULAR SITUATION OF SITE.

ON THE EARTH, THE VERY ACT OF MOUNTING GIVES ME A FEELING
OF GLADNESS; THE MOMENT IS A JOYFUL ONE, AND ALSO A SOLEMN
ONE, AND IN PROPORTION AS THE HORIZON WIDENS MORE AND
MORE, ONE'S THOUGHTS SEEM TO TAKE ON A LARGER AND
COMPRESSIVE CAST, SIMILARLY IF EVERYTHING IN THE PHYSICAL
SPHERE WIDENS OUT. IF THE LUNGS EXPAND MORE FULLY AND THE
EYE TAKES IN VAST DISTANCES SO TOO THE SPIRIT IS ROUSED TO
A VITAL ACTIVITY. IN HISTORY MAN HAS ACCOMPLISHED THIS BY
SITUATING HIMSELF IN AN URBAN ENVIRONMENT ON FEATURES OF
THE EARTH'S SURFACE, NOT DETACHED IN THE UPPER REACHES OF
A SKYSCRAPER.\textsuperscript{13}

CORBUSIER UNDERSTOOD THAT THE WAY TO START REBUILDING THE WORLD
WAS TO "CRASH THE PARTY", TO CALL FOR THE MOST RADICAL MEASURES,
TO DECLARE ONESELF DEEPLY COMMITTED TO CHANGING THE HUMAN CONDITION:

WHEN WE BEGIN OUR SYMPHONY, OUR CONTINUAL ROLE IS TO
APPEAR AS TOUGH GUYS, WITH DIRTY MUDY BOOTS STAMPING
OUT AN ELEGANT AND TRANQUIL SOCIETY IN ORDER TO MAKE OUR
POINT.\textsuperscript{14}

...MAN HAS GENERALLY MADE MOC OF THE PROVISIONS OF
NATURE AND NOW FOUR ROUTES PERVADE THE MODERN WORLD:
EARTH ROUTE, SEA ROUTE, IRON ROUTE, AIR ROUTE. THE FIRST
THREE ARE DEEPLY ROOTED TO TOPOGRAPHY. THEY FOLLOW
INEVITABLE COURSES: THE EARTH, WATER, AND IRON ROUTES.
THROUGHOUT THE AGES, THE FIRST TWO ESTABLISHED A RATIONAL
NETWORK OVER THE WORLD; THE THIRD DISRUPTED THAT SYSTEM;
THE FOURTH POSES IMMENSE PROBLEMS.\textsuperscript{15}
ARCHITECTURAL UNITY IS THE OFFSPRING OF THE "DOCTRINE OF THE BUILT DOMAN" WHICH ESTABLISHES EQUILIBRIUM BETWEEN

TOPOGRAPHY
THE LAWS OF NUMBER
THE RULE OF THE SUN

...BY THE INTRODUCTION OF THIS REFORM IN THE SCALE OF URBAN DISPOSITIONS AND BY THE NEW ORDER OF GRANDEUR OF BUILT VOLUMES, A PACT CAN BE MADE WITH NATURE. ...NATURE LIVED BEFORE THE TOWN AROSE: THE TOWN CHASED HERE AWAY FILLING HER PLACES WITH STONES, BRICKS AND WITH ASPHALT. ...IN NATURE TOPOGRAPHY PRESENTED ROLLING PERSPECTIVES, MOVING HORIZONS, HILLS, MOUNTAINS; THE TOWN SET UP 60\(^1\) RANKS, ONE BEFORE ANOTHER, THE OBSCURING SCREEN.\(^{17}\)


THE EARTH ROAD, FIRST CREATION OF THE HUMAN RACE, FOLLOWS THE IMPLACABLE DESTINY IMPOSED BY TOPOGRAPHY. HERE AND THERE IT IS CUT BY ANOTHER ROAD GOING ELSEWHERE: CROSROADS; FROM THAT SPOT HENCEFORTH A LARGE TERRITORIAL AREA CAN BE DRAINED AND FED. THIS CROSSING IS THE NATURAL SITE FOR A CITY NOURISHED ON ITS HINDERLAND, A CENTER OF GOVERNMENT AND EXCHANGE.\(^{18}\)

THOSE SPECULATORS DID NOT TROUBLE TO EMPLOY THE TRUE FORMS SUITED TO THE OCCUPATION OF THE GROUND. PARCELLING IT UP INTO A GARDEN CITY, THEY HAVE KILLED THE SITE, CHASED AWAY THE "ESSENTIAL JOYS" AND LOST THE OBJECT OF THEIR ENTERPRISE. 19
ON THE ALGIERS HEADLAND, IN 1939, WAS CONCEIVED A PROUD BUILDING. IT WOULD HAVE DRIVEN THE FIRST STAKE OF THE RESTITUTION, TO THAT ILL-GROWN TOWN, OF ITS BEAUTY AND ITS HORIZONS.

IN STOCKHOLM, A NEAR-ISLAND AND AN ISLAND BOTH COVERED WITH SLUMS, NEW ARRANGEMENTS WERE PROPOSED. TWO GENTLE HILLS SLOPE DOWN TO THE SEAS. BETWEEN THE TWO, THE ROYAL PALACE.

ON THIS EXCEPTION TOPOGRAPHY ONE COULD HAVE TOWN-PLANNED ABOVE ALL AGAINST THE SKYLINE BY FIXING THE CROWNING HORIZONTAL OF THE BUILT VOLUMES, AND ALL THE ROADS RUNNING THROUGH THE PARKS WOULD HAVE DESCENDED TOWARDS THE SEA.

THE AIRPLANE HAS GIVEN US THE VIEW OF THE FLYING BIRD. PLANS ARE NO LONGER SIMPLY A GAME OF THE MIND; HENCEFORTH THEY SEE THEMSELVES.

AND THE SPIRIT PROCLAIMS THEIR ORDER AND THIER GRANDEUR.
BUILDING REGULATIONS, SMELLING OF OFFICE WORK, HAVE MADE OF THIS TOWN A MERE CRUST STUCK TO THE GROUND. ONE DAY PUSHING UPON ANOTHER, THE TOWN ESCALADED ITS HILLS, ENCLOSING LIFE IN NARROW FISSURES.


HE WILL DESTRIBUTE THEM UPON THE GROUND OF THE TOWN, HE WILL SET UPON THE TERRAIN A STATUE BY WHICH HIS SPIRIT, THROUGH THE COURSE OF YEARS, WILL EXPRESS ITSELF IN ARCHITECTURAL MANIFESTATIONS.
RIO DE JANEIRO: THIS SITE, ITS INTRINSIC WORTH FREE OF CHARGE, CAN BE ENTERED IN THE LEASE.

A MOTOR ROAD PERCHED 300 FEET HIGH ON SUBSTRUCTURES OF REINFORCED CONCRETE CAN LINK ALL THESE BAYS SEPARATED BY MASSIVE SPURS, AND BEneath THE MOTOR ROAD 200,000 PEOPLE CAN BE LODGED IN INCOMPARABLE CONDITIONS.

RIO DE JANEIRO IS ONE OF THE MOST DIFFICULT CASES FOR TOWN PLANNING. THE CALCULATOR AND THE POET UNITED IN THE TOWN PLANNER UNRAVEL FROM THE TANGLE AN UNEXPECTED SOLUTION.


A PACT IS SIGNED WITH NATURE.\(^{23}\)
SINCE 1924 ONE COULD HAVE MADE AT MONTEVIDEO A PROPOSITION FOR A BUSINESS CITY INSCRIBED IN THE TOPOGRAPHY; AND AT SÃO PAULO IN BRAZIL ONE COULD HAVE SKETCHED A RADICAL SYSTEM CUTTING A WAY THROUGH INEXTRICABLE CIRCULATIONS.
IN AN UTTER CHAOS, ALGIERS, STANDING ON ITS CLIFFS, HAS HITHERTO WASTED ALL ITS OPPORTUNITIES. A DIRECTIVE PLAN RE-ESTABLISHES ORDER BY THE DEFINITION AND ARTICULATION OF ITS ELEMENTS. AN ESSENTIAL DISCIPLINE IS INTRODUCED.

1. THE RESIDENTIAL QUARTERS ON THE HEIGHTS.
2. A CIRCUITOUS ROUTE GIVING ACCESS TO THESE HEIGHTS.
3. LIGHT INDUSTRY AT THE FOOT OF THE CLIFF.
5. THE CIVIC CENTRE ON THE SEABOARD.
6. THE INDIGENOUS INSTITUTIONS AT THE FOOT OF THE CASBAH (9).
7. THE PENINSULA OF THE ADMIRALTY AND BOUNDARIES (10).
8. HEAVY INDUSTRY IS MAINTAINED AT A DISTANCE.
9. A WEEK-END CITY ON THE ALGIERS ROADS.
10. AN AMUSEMENT CENTRE AT CAP MATIFOU (CINEMAS, ETC.)
...in nature topography presented rolling perspectives, moving horizons, hills, mountains. The town is set up in 60° ranks, one before another, the obscuring screens of its houses. ...The new built volumes, gifts of modern techniques, transform the town and the conditions, of men, according to the site.

Even in 1889 Camilio Sitte in *The Art of Building Cities* explained his concern for the situation at that time:

Nature and art, historical wisdom and a fresh effervescent life should always go hand in hand, so that dry tedious patterns may be dispensed with and once more each new town can achieve a unique character in its layout and architecture, in keeping with its location and idiosyncrasies. Every new town the world over need not end up with the identical monotony of appearance as if stamped out by the same mechanical mold.

It is above all the enormous size to which our large cities are growing that has shattered the framework of traditional artistic forms at every point. ...Everything tends toward the immense, and that the constant repetition of identical motifs is enough to dull our senses to such an extent that only the most powerful effects can still make any impression as to the land forms within the city. As this cannot be altered, the city planner must like the architect, invent a scale appropriate for both land and the city of millions.

The basic difference of city form in Europe and the U.S. is discussed by Jacques Paul Grillo in *What Is Design?*:

The relationship to topography may be less in American than in Europe where people live in close contact with the heritage of centuries of their anonymous architecture. But there is something that breathes out of such a perfect adaptation of man's work to nature's forms that makes it alive and gives the impression that it has always been there and has the same absolute right to be there as the rock or cliff, because it belongs there.
This intimate association of the form with the site where it is built is what makes a piece of architecture great without possible discussion, regardless of size or program. When such perfect blending happens between the site and man's work we can hardly tell apart master from disciple, nature from man.29

Grillo calls this resulting picture as a creation of an effect of "minetisum" a total symbiosis as one of the sure signs of greatness in design.

He thus sets up three basic criterion in the study of design including that of the urban form:

1. Source of inspiration in nature; not a copy of it.
2. A source of inspiration in archetypes, the elemental solutions of design, evolved from the study of nature by generations before us of simple-minded, straightforward, and sensitive people; not a copy of them.
3. Be of our time and never borrow from the language of the past.30

Chris Tunnard in The City of Man discusses the designer's role:

The creative designer must start, then, with proper relationships his aim. Suppose a new town is under consideration. Having been assured that the premises are correct or having quarreled with them until a satisfactory analytic base is arrived at, knowing the number of square feet to be given to this and that, understanding that certain space must be reserved for industry and others for civic use, the designer can begin, not to make a plan—but to visualize in groups certain parts of the coming city as they will appear in three dimensions. . . . Growing from the site or strategic points of ground are seen the one or more centers of industry, of commerce, of government, of pleasure, of health, of religion; each with
ITS EMBRYONIC FORM AND CHARACTER. THE ACTUAL FORM IS VARIABLE AND OF PATTERNS ON THE GROUND THERE ARE A THOUSAND POSSIBILITIES; THE FORMS WILL ALREADY HAVE A QUALITY STAMPED BY VARIETY IN HEIGHT, IN VERTICAL AND HORIZONTAL EMPHASIS, IN LOOSENESS OR COMPACTNESS IN STRUCTURE.\textsuperscript{31}

**URBAN DESIGN: THE ARCHITECTURE OF TOWNS AND CITIES**

EXPRESSES PAUL SPREIREGEN'S THOUGHTS IN A MORE ANALYTIC MANNER THAN MOST OF THE OTHERS WHO HAVE VOICED THEIR OPINIONS:

WHAT WILL BE THE ROLE OF TOPOGRAPHIC FEATURES IN THE CITY OF THE FUTURE WITH ITS EVER-INCREASING SCALE OF CONSTRUCTION CHALLENGING NATURE IN MAGNITUDE? EARLY CIVILIZATION SELDOM HAD THIS PROBLEM BOTH BECAUSE OF LIMITED TECHNOLOGY AND RELATIVELY SMALL NUMBERS OF INHABITANTS.

AS IN MOST EARLIER CITIES, THESE SMALL CITIES ARE SEEN AS ENTITIES IN NATURE, WHEREAS THE LARGE ONES CREATE NEW LANDSCAPES, OR CITYSCRAPES. IN SOME CASES, WHERE THE FEATURES OF NATURE WHICH ONE MIGHT SEEK AS CLUES TO FORM ARE WANTING, THE CITY-SCAPE MUST SUBSTITUTE FOR LANDSCAPE. THE CITY FORM IS NOT UNRESPONSIVE TO NATURE; RATHER IT EMPLOYS THE LESS DEMANDING LANDFORM, MORE AS A POINT OF DEPARTURE THAN AS A CONDITION TO BE EXTENDED, AMPLIFIED, OR CONTRASTED. IT GOES FURTHER TO CREATE ITS OWN CONDITIONS.\textsuperscript{32}

THE CONSIDERATION OF THE COMPOSITION OF CITIES OF THE PAST IS A SPUR TO THE CONSIDERATION OF THE FUTURE OF OUR OWN CITIES. IT IS ALMOST AS THOUGH WE MUST ADOPT THE PHILOSOPHY THAT TO CREATE A MEANINGFUL CITY WE MUST START WITH A MEANINGFUL CONCEPT AND THE CONVICTION THAT EVERY CITY CAN BECOME ITS BEST SELF.

THIS VERY LARGE-SCALE WORK SHOULD BEGIN WITH AN EQUALLY EXTENSIVE EVALUATION OF THE POSSIBILITIES OF THE SITE; THIS INVOLVES THE SURVEY OF SITES TO DISCERN THEIR DESIGN CAPABILITIES; THEIR POTENTIAL TO SUPPORT ADDITIONS AND THE CHARACTER OF THESE ADDITIONS. WE SHOULD EXAMINE SITES WHICH HAVE BEEN BUILT UPON ALMOST AS IF THEY HAD NOT BEEN TOUCHED, AND ASK WHAT WOULD BE BETTER THERE, CONSIDERING THE SITE AND ITS MOST ARTFUL DEVELOPMENT POTENTIAL.\textsuperscript{33}
WE WOULD BEGIN OUR PROPOSAL OF URBAN FORM BY CONSIDERING OUR CITY'S BASIC RELATIONSHIP TO NATURE; THEN GO ON TO EXAMINE ITS FORMS AS A SATISFACTION OR AN ENCUMBRANCE TO ITS FUNCTION; THEN EXAMINE ITS FORMS AND THEIR RELATIONSHIPS AS SATISFACTIONS OR INSULTS TO OUR HUMAN SENSES. WE MUST ALWAYS QUESTION THE QUALITY OF THE CITY'S FORMS AS A RESPONSE OR A REPUDIATION OF ALL THESE CONDITIONS; WE MUST DISCERN IN THE DISARRAY THE ELEMENTS WHICH ARE THE TRUE BASIS OF ITS FORMS.  

THIS APPROACH WAS ALSO VIVIDLY STATED BY IAN NAIRN, THE ENGLISH ARCHITECT-PLANNER, POINTING OUT THE FALLACY OF USING STATISTICAL ANALYSIS IN MAKING PLANNING DECISIONS WHICH ARE MATTERS OF ARTISTIC JUDGMENT—MATTERS OF SEEING THE WHOLE PICTURE THROUGH A "DESIGN SURVEY".  

SYLVIA CROWE IN TOMORROW'S LANDSCAPE SUGGESTS THAT:  

THE DEGREE TO WHICH LANDSCAPES CAN ABSORB THE IMPACT OF MAN WITHOUT BECOMING OVER POWERED BY IT APPLIES TO THEIR APPEARANCE. THE VITAL FACTOR IN ABSORPTION OF BUILDINGS INTO THE VIEW IS THE SCALE OF THE LANDSCAPE, DEPENDING ON WHETHER BUILDINGS CAN BE HELD WITHIN THE LAND FORM AS ARE SO MANY OF THE OLD VILLAGES, OR WHETHER THEY MAY BE ALLOWED TO DOMINATE IT.  

SHE ADDS A FINAL POINT: ANY LANDSCAPE WHOSE APPEAL IN GRANDEUR, IN IMENSITY OF EMPTINESS AND CLEAN, UNBROKEN LINE OF ITS HILLS, QUICKLY LOSES CHARACTER UNDER TOO EXTENSIVE USE BY MAN.  

LEWIS MUMFORD IN THE INTRODUCTION OF BENTON MAC KAY'S NEW EXPLORATION:  

THE TENDENCY OF THE PRESENT DAY EXODUS TO SUBURBIA IS TO BULLDOSE OUT OF EXISTENCE EVERY EVIDENCE OF VARIETY AND INDIVIDUALITY IN BOTH THE LANDSCAPE AND HUMAN COMMUNITIES...THE TIME, THE ENERGY, THE MONEY AND HUMAN EFFORT...SHOULD GO INTO MORE SIGNIFICANT ASPECTS OF LIFE.
ECOLOGICAL CITY
IN *TOWNSCAPE*, GORDON CULLEN:

A CITY IS A DRAMATIC EVENT IN THE LANDSCAPE; IT IS A TREMENDOUS UNDERTAKING, YET IT CAN APPEAR DULL WITHOUT CHARACTER OR FORM. WITH THE VISUAL IMPACT WHEN BUILDINGS ACCUMULATE A NEW ART OF RELATIONSHIPS AND ORGANIZATIONS BECOMES POSSIBLE WITH THE TERRAIN CONFIGURATION ON WHICH THEY ACCUMULATE. OUR ORIGINAL AIM IS TO MANIPULATE THE ELEMENTS OF THE TOWN SO THAT AN IMPACT ON THE EMOTIONS IS ACHIEVED. 38

HUGH PLOMMER, AN ARCHITECTURAL HISTORIAN, HAS TAKEN A QUOTATION FROM THE GREEK WRITER PHOCYLIDES:

A SMALL CITY ON A HILL, WELL-GOVERNED, IS BETTER THAN STUPID NINEVAH. 39

AN ALMOST REVOLUTIONARY PROPOSAL HAS BEEN SUGGESTED BY MORT AND ELEANOR KARP IN WHICH THE CITY IS MADE TO LOOK AS MUCH LIKE THE LANDSCAPE ITSELF—BUILDINGS AND ALL. IN THEIR DISCUSSION OF THEIR "ECOLOGICAL CITY" THEY EXPLAIN:

WE EXAGGERATE OUR PRESENCE IN THE WORLD; EVERYONE IS LOOKING FOR THE BEST BUILDING FORM TO SET ON THE EARTH. LET'S LOOK AT THE ONLY FORMS OF PERMANENT MEANING—THE FORMS OF BUILDINGS SHOULD BE FORMS OF THE WORLD IN WHICH THEY EXIST, SO THAT, INSTEAD OF OBTRUDING, THEY WILL BE A CONTINUOUS PART OF THE LANDSCAPE, INDISTINGUISHABLE AND INTEGRAL. CAN SUCH FORMS BE BUILT? SIMPLY. THE TECHNICAL PROBLEMS ALREADY HAVE THEIR TECHNICAL SOLUTIONS.

...THERE WOULD BE AS MANY FORMS AS THERE ARE PLACES IN THE WORLD. THE CITY ON AND IN THE SAND DUNES WOULD BE COMPLETELY DIFFERENT IN APPEARANCE FROM A CITY ON A GLACIER OR IN THE SIERRAS. AN EXAMPLE: MONUMENT VALLEY IN ARIZONA IS, IN ITS FORM, A MAGNIFICENT NATURAL CITY WITH FANTASTIC WIND-CARVED CLIFF BUILDINGS IN A DEEP RED STONE SURROUNDING LARGE OPEN PLAZAS IN WHICH GROUPS OF ERODED SCULPTURAL FIGURES 200' TALL OCCUR.
...think how many thousands of buildings in the U.S. could slip into the earth. Instead students think of architecture as the making of things in opposition to the earth.40

**Nature of Cities - L. Hilberseimer:**

There are certain factors which, with their implications and interrelations do much to determine the essential character of the city. Most important is the nature of the site on which the city is located, the relation of that site to the landscape of which the city is a part, the character of that landscape, its geographical and topographical features.41

**Landscape Architecture - Stanley White:**

The occupied landscape may be richer by far in all the subtle amenities of the original land if only the designs we apply are becoming to the form as to the complexion of the slopes we presume to compliment. The character should be intensified, not obliterated.42
THOUGH THE WORDING BE SOMEWHAT DIFFERENT AND THE PROPOSALS VARIED, THE CONSENSUS OF THOUGHT EVOLVES WITH ONE THEME CLEAR; THAT MAN HAS NOT LEARNED TO RESPECT THE SURFACE OF THE EARTH, COMMON TO ALL CITIES, BUT ALSO POTENTIALLY PROVIDING A PARTICULAR CHARACTER. THEY ARE CONCERNED ABOUT THE CHALLENGE MAN MUST ACCEPT OR REJECT IN RELATING THE TWO PHYSICAL ELEMENTS, THE CITY AND THE LAND SUCH THAT THE TOPOGRAPHY IS NOT LOST IN THE GROWING WAVE OF UNIVERSAL ARTIFICIAL URBANISM. THEY RECOGNIZE THAT IT IS THE ONE ELEMENT WHICH HAS THE POTENTIAL TO IMPORT TO A CITY A UNIQUENESS, A THEME AND THAT THE QUALITY OF SENSITIVITY IS NOT NECESSARILY OLD FASHIONED NOR DOES IT JEOPARDIZE THE MANIA FOR EFFICIENCY BY BRUTE FORCE. TOPOGRAPHY SHOULD BE A DESIGN CONSIDERATION, NOT AN OBSTACLE.
TOPOGRAPHY AND URBAN FORM IN HISTORY
WHEN MAN FIRST CUT OUT A LITTLE SPACE FROM THE SURROUNDING LAND, ENCLOSED IT WITHIN A WALL AND FORMED A PLACE WHERE HE COULD LIVE WITHOUT TILLING THE SOIL HIMSELF, HE GAVE UP THE INTIMATE SOLIDARITY WITH NATURE. THEN BEGAN A NEW TYPE OF HUMAN BEING AND AN ANTAGONISM BETWEEN COUNTRY PEOPLE AND TOWNSPEOPLE.

AS MAN'S ATTITUDE TOWARD THE GROUP, THE COMMUNITY, AND THE SOCIETY OF WHICH HE IS A MEMBER HAS BEEN CHANGING THROUGHOUT KNOWN HISTORY, SO HIS REACTION TO HIS ENVIRONMENT HAS PASSED THROUGH SUCCESSIVE STAGES OF TRANSFORMATION. CITIES HAVE PLAYED AN IMPORTANT ROLE IN THE PROCESS, WHICH CONSISTS OF A NEVER-ENDING DIALOGUE AND RESPONSE.

HUMAN EFFORTS HAVE BEEN DIRECTED, AS FAR AS CITIES ARE CONCERNED, TOWARD THE SAME GOAL. ALWAYS AND EVERYWHERE THE BASIC ELEMENTS HAVE CHANGED, FOR BOTH EXPRESS THE SPIRITUAL AND INTELLECTUAL CONCEPTION OF THE SURROUNDINGS THAT MEN HAVE MADE FOR THEMSELVES.
"The untutored builders demonstrated admirable talent for fitting their environment into the natural surroundings. They did not try to conquer; they welcomed the challenge to topography. Whereas we find flat, featureless country most to our liking (the bulldozer can erase any flaws), more sophisticated people are attracted by rugged country. In fact they do not hesitate to seek out the most complicated configurations in the landscape. The most sanguine of them have been known to choose veritable eyries for their building sites—Machu Picchu, Mont Alban, and the craggy bastions of the monks' republic on Mount Athos to mention only some familiar ones.

The tendency to building on sites of difficult access can be traced no doubt to a desire for security but perhaps even more so to the need of defining a community's borders."

The issue sways between magical union with nature and the urge toward a detached interpretation and rational use of it. Magical trends, more or less deeply embedded in and dependent on natural phenomena, have been present in all those epochs when the universe was limited and men were aware of their insignificant role in the general order of things. This magical identification with the environment is evident in the indigenous settlements of Africa and China, Mesopotamia, in the polis, in early Rome, and in medieval towns. This bond has created an integrated and systematic order. The growing independence and clarification of mind, on the other hand make man believe that he is free and that in freedom he can conquer the universe and adopt it to his own needs. Up to the present this new freedom has produced a great disorder because the
IDEA OF THE UNBOUNDED BUT LIMITED UNIVERSE IS CONCEIVABLE SPECULATIVELY BUT NOT VISUALLY; IT IS STILL TOO NEW, STILL TOO GREAT FOR MAN TO CONFRONT IT SYSTEMATICALLY WITH HIS OWN WORKS. WHAT WE ARE WITNESSING TODAY, IS THE CLASH BETWEEN THE SENSE OF REALITY AND THE SENSE OF POSSIBILITY.\textsuperscript{2}

NOW ABOUT 5,000 YEARS HAVE PASSED SINCE THE URBAN REVOLUTION, BUT NEITHER THE PURPOSE NOR THE STRUCTURE OF CITIES HAS CHANGED BASICALLY DURING THIS TIME. WHAT HAS CHANGED IS THE COMPLEXITY OF CITY LIFE AND SIZE OF THE URBAN COMMUNITIES, THE LANGUAGE OF FORM, EVIDENT IN THE TOPOGRAPHY, IN WHICH THESE VARIOUS MOTIVATIONS ARE EXPRESSED, A CHANGE RESULTING FROM THE TRANSFORMATION OF SOCIAL AND RELIGIOUS IDEAS, FROM WIDENING CONCEPTIONS OF SPACE AND SCALE, FROM IMPROVED TECHNICAL SKILLS, AND FROM THE GROWING COMPLEXITY OF INDIVIDUAL AND COMMUNAL NEEDS.

BECAUSE "URBAN DESIGN" IS A MATTER OF ARRANGING MATERIAL OBJECTS, IT IS A PLASTIC ART, CONCERNED BOTH WITH HOW THINGS APPEAR AND WITH HOW THEY ACTUALLY OPERATE. A CITY IS CONSTANTLY CHANGING, LIKE THE NATURAL LANDSCAPE, BUT NATURE WILL TAKE CARE OF THE LANDSCAPE; MAN MUST TAKE CARE OF THE TOWNSCAPE. NEARLY AS LONG AS MEN HAVE DWELT ON THE EARTH, THEY HAVE FOUND WAYS OF MAKING THEIR HABITATIONS, TOWNS OR TENTS, HARMONIOUS OBJECTS IN THE LANDSCAPE. THE APPEARANCE OF PRIMITIVE TOWNS, ANCIENT OR MODERN, USUALLY IS PART OF A BALANCED PICTURE OF MAN'S CONSTRUCTIONS

33
IN NATURE, HARMONIOUS IN ITS OWN PARTS, FUNCTIONAL FOR ITS OWN PURPOSES, WELL ARRANGED FOR ITS INHABITANTS.\textsuperscript{3}

WHEN WE SEE WHAT WE TERM A "PICTURESQUE" TOWN, WE OFTEN FEEL AS THOUGH A HAPPY SEQUENCE OF ACCIDENTAL FORCES HAD MADE IT SO, BUT THERE IS TOO MUCH EVIDENCE TO THE CONTRARY TO CONCLUDE THAT IT WAS ALL BY CHANCE: EVIDENCE THAT OUR ANCESTORS THOUGHT VERY CAREFULLY ABOUT THE WAY THEIR CITIES BOTH LOOKED AND FUNCTIONED. TRUE, THE VILLAGE IS SMALLER AND LESS COMPLEX, BUT SO WERE THE MEANS TO OVERCOME ITS PROBLEMS. TRUE, TOO, THERE WAS A GENERAL CONSCIOUSNESS OF THE ARRANGEMENT OF THE VILLAGE. NO EXPERTS OR CONSULTANTS WERE NEEDED; NO ILLUSTRATED BROCHURES WERE PRODUCED. THE BEAUTY AND FUNCTION OF THE OLD VILLAGES AND TOWNS WERE THE PRODUCTS OF A GENERAL AWARENESS AND ACTIVE CONCERN.\textsuperscript{4}

THE TOPOGRAPHICAL FEATURES OF THE CITY WERE USUALLY REVERED AND SERVED AS THE MOST IMPORTANT, BOTH STRUCTURALLY AND Socially; WHERE SEVERAL GEOGRAPHIC DOMINANTS COME TOGETHER THERE WAS USUALLY VIGOROUS GROWTH. WHETHER IT WAS THE TEMPLE ACROPOLIS, THE HILLTOP CASTLE, OR CATHEDRAL MONASTERY, ALL WERE BUILT OF PERMANENT MATERIALS, WITH SOLID STONE WALLS, OFTEN PLATED WITH PRECIOUS STONES, OR ROOFED WITH RARE TIMBER TAKEN FROM A DISTANT QUARRY OR FOREST, ALL CONCEIVED ON A COLOSSAL SCALE, WHILE THE MAJORITY OF DWELLING HOUSES WOULD STILL BE BUILT OF CLAY AND
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WITH PRECIOUS STONES, OR ROOFED WITH RARE TIMBER TAKEN FROM A
DISTANT QUARRY OR FOREST, ALL CONCEIVED ON A COLOSSAL SCALE, WHILE
THE MAJORITY OF DWELLING HOUSES WOULD STILL BE BUILT OF CLAY AND
REED, SOME COMMON TIMBER, IF AVAILABLE, AND ALL OF TEMPORARY STRUCTURING. THE TEMPLE AREA WOULD BE PAVED; THE STREETS AND ALLEYS OF THE REST OF THE CITY WOULD REMAIN UNPAVED.

IF NO CHARACTERISTIC FEATURE WAS AVAILABLE IN THE TOWNSCAPE STRUCTURE, IT WAS OFTEN BUILT UP ON A MONUMENTAL SCALE TO DOMINATE THE COMMUNITY JUST AS AN EARTH FORM WOULD, AS REFLECTED IN THE MESOPOTAMIAN ZIGGURAT, THE "HOLY MOUNTAIN," OR THE MAYAN STEPPED TEMPLES. THE IMPORTANCE OF THE CITY OF THE DEAD IN EGYPT WAS MARKED BY THE ARTIFICIAL MOUNTAINS ON THE FLAT DESERTS PROTECTING THE AFTER LIFE OF ITS INHABITANTS AND SERVING AS AN EXPRESSION OF A SYMBOLIC REMINDER OF MAN'S DESIRE FOR PERMANENCE AND CONTINUITY.

ALONG WITH THIS BOLD AESTHETIC TRANSFORMATION, CAME THE TENDENCY TO LOOSEN THE BONDS SOMewhat THAT CONNECTED THE URBAN INHABITANTS WITH THE TOPOGRAPHY AND TO TRANSFORM, ELIMINATE, OR REPLACE ITS EARTH-BOUND ASPECTS, COVERING THE NATURAL SITE WITH AN ENVIRONMENT DISPLAYING THE DOMINANCE OF MAN AND AN ILLUSION OF INDEPENDENCE FROM NATURE. EACH OF HIS NEW-FOUND TECHNICAL DEVELOPMENTS LESSENED THE IMPACT OF NATURE AND INCREASED THE DOMINANCE OF MAN.

EVEN NATIONAL CHARACTERISTICS BEGAN TO DISAPPEAR ABOUT 1850 AND A NONDESCRIPT UNIFORMITY WAS SPREADING OVER THE WORLD'S
DEVELOPED COUNTRIES WITH ALL THE DISADVANTAGES OF STANDARD
SOLUTIONS TO THE PRESSING, BUT NOT CLEARLY UNDERSTOOD, PROBLEMS
OF A RAPIDLY ADVANCING URBANIZATION.

BY NOW THE ORIGINAL CONCEPTION OF THE CITY IS COMING TO AN
END; THE OLD SCALE SEEMS TO HAVE LOST ITS MEANING. ONE SHOULD
KNOW WHAT THESE PAST CITIES WERE AND MEANT. ALSO THE
COMPILATION OF FACTS IS MISLEADING IF IT IS NOT RELATED AND
SUBORDINATED TO THE HUMAN FACTOR, TO THE LIFE OF THE INDIVIDUAL
IN RELATION TO HIS COMMUNITY AND TO HIS ATTITUDE TOWARD HIS
ENVIRONMENT AT A PARTICULAR PERIOD AND IN A PARTICULAR PLACE.

THUS IT WILL BE SEEN FROM A CRITICAL HISTORICAL VIEWPOINT
THE DIFFERENT LANGUAGES OF FORM IN DIFFERENT AREAS AND THE ROLE
THAT TOPOGRAPHY HAS PLAYED IN SHAPING THOSE PLACES THAT ARE
INHABITED BY HUMANS IN A GROUP ENVIRONMENT.

A DISTINCTION IS MADE BY A. E. GUTKIND CONCERNING THE INTERAC-
TION BETWEEN MAN AND HIS ENVIRONMENT.5 HE CONSIDERS IT IN THE WEST
TO BE ABSTRACT, AN I-IT RELATIONSHIP. IN THE EAST IT IS CONCRETE,
IMMEDIATE AND BASED ON AN I-THOU RELATIONSHIP. HE STATES THAT
WESTERN MAN FIGHTS NATURE; EASTERN MAN ADAPTS HIMSELF TO NATURE
AND NATURE TO HIMSELF. ADDED HOWEVER IS THE FACT THAT THESE ARE
BROAD GENERALIZATIONS; BUT THEY MAY EXPLAIN SOME OF THE ESSENTIAL
DIFFERENCES OF THE ATTITUDES OF EASTERN AND WESTERN DEVELOPMENT

36
Although it is not so critically evident in the urban forms of the later periods. Also few townbuilders, Eastern or Western, had foreseen at their conception, the populations that they were destined to accommodate at a point beyond their original slow period of growth and almost all of these cities were prone to the loss of their definition in developing some sort of sprawl.

But taking this fact into consideration, one can investigate some of those places where man has chosen to live as artifacts—products of human workings—to find what relative importance was given to topographical features, how they were exploited or shunned, reinforced or negated, and what these features meant to the lives and feelings of the inhabitants in terms of choice of location, settlement patterns, planning, architecture, living and experiencing these features, and the town's growth. It may be that by tracing the growing complexity of man's originally simple-minded approach to interpretation of land forms, those surviving elements of this simplicity may suggest a framework for present and future town-building.

In the final part of this section some examples of contemporary urban proposals will be considered.
EASTERN URBAN FORM

ARCHITECTURE BY SUBTRACTION
TROGLODYTIC DWELLINGS
PALEOLITHIC MAN'S FIRST DWELLING WAS THE CAVE, THE NATURAL
TOPOGRAPHIC PROVISION OF NATURE. (IT MAY VERY WELL BE HIS LAST
AS WELL, AS THE MODERN WORLD HAS RESORTED TO THEM AS THE ONLY
REFUGE FROM AIR ATTACK AND HAS CHOSEN THEM AS THE SAFEST PLACE
FOR HIS RECORDS AND BUSINESS FILES, HIS MOST PRECIOUS ARTIFACTS.)
THUS BEGAN HIS EARLY ASSOCIATION WITH NATURAL FEATURES - A
SECURITY, REFUGE, AND ISOLATION FROM ADVERSE CLIMATES. IT WAS
A PRIMITIVE RELIANCE ON THE READY USE AND SIMPLE TRANSFORMATION
OF NATURE.

THE CAVE HAS NOT BEEN TOTALLY REPLACED IN THE EASTERN WORLD.
IN WIDELY SEPARATED LOCATIONS MAN HAS RETAINED THE AFFINITY FOR
SUCH DWELLING, MORE PERMANENT THAN MAN'S STRUCTURES. IN
OTHERS HE HAS QUIETLY RELINQUISHED IT.

ROCK-CUT ARCHITECTURE - NOT CONSTRUCTION, BUT SUBTRACTION -
BELONGS TO ANOTHER REALM WHERE THE MORPHOLOGY OF THE CITY IS
THAT OF A NATURAL GEOLOGIC FORMATION. IN THE EXISTENT CONFIGURA-
TION OF ROCK A HIERARCHY OF NEEDED SPACES WAS EXCAVATED, AN IM-
PULSE COMMON TO ALL MEN MOTIVATES THEM TO MAKE A PLACE FOR THEM-
SELVES, BUT THEIR REACTION TO THE PHYSICAL FORMS PRESENTED THEM
INVOKED A DIFFERENT ARCHITECTURE.
BUT THE FLATLANDS WERE NOT TO BE NEGLECTED. IN HORAN AND LOYANG, CHINA, WITH THE SCARCITY OF TIMBER, THE CAVE PRINCIPLE IS OBVIOUSLY A RATIONAL SOLUTION. THE CITIES ARE NEGATIVE CITIES. FAMILY LIVING SPACES ARE CENTERED ABOUT A SUBTERRANEAN SQUARE 30° TO 45° DEEP. THE SPACES ARE CARVED INTO THE LOESS, WHICH IS SELF-SUPPORTING. THUS OBTAINED THE CITIES ARE WARM IN WINTER, COOL IN SUMMER, AND AN UNINTERRUPTED SWEEP OF THE FLAT TERRAIN AND ADDITIONAL AGRICULTURAL LAND RESULTS. IN THE CHINESE PROVINCES OF HONNAN, SHANSI, SHENSI, AND KANSU ABOUT TEN MILLION PEOPLE LIVE IN THIS TYPE OF URBAN FORM. (IT IS ALSO COMMON IN TUNISIA).

CHINA PROVIDES EXAMPLES OF ROCK-CUT BUDDIST TEMPLES, SHRINES, AND MONASTIC ESTABLISHMENTS MOST NOTABLE OF WHICH ARE THE YUN KANG CAVES; TA-TUNG, SHANSI; AND THE CAVES OF A THOUSAND BUDDAS, TUN-HUANG. THE DISENGAGEMENT FROM ALL MATERIALISTIC DWELLINGS AIDED THE MEDITATIVE SPIRIT.

SCULPTURING EARTH FORMS INTO HILLS, EVEN WITH LIMITED EARTH MOVING TECHNIQUES, ALSO FORMED THE BASIS OF THE CHINESE PUBLIC GARDEN.

RELATIVELY LITTLE RECORD OF CITIES OF THE ORIENT EXIST. IN THE MAJOR CITIES THE POWER OF THE RULERS WAS MAINTAINED WITH MILITARY FORCE—THUS THE REGULAR FORM AS IN PEKING; IT WAS
DOMINATED BY THE ARTIFICIAL MASS OF THE CENTRAL PALACE.

EARLY INDIAN ARCHITECTURE, INFLUENCED BY BUDDHISM, HAD MANY ROCK-CUT CAVES IN THE SIDE OF CLIFFS OFTEN SPACIOUS AND ALWAYS ELABORATELY DETAILED. THEY WERE USED BOTH FOR PREACHING AND LIVING BY THE HINDUS, SERVING GENERATIONS OF RELIGIOUS MEN AS MONASTERIES (VIHARAS), SHRINES, AND MEDITATION RETREATS IN THE HOT CLIMATE. EXPANSION REQUIRED MERELY THE CUTTING AWAY MORE OF THE CLIFF FOR ADDITIONAL CHAMBERS. MOST NOTABLE ARE THOSE OF ELLORA.

OTHER MONASTIC ESTABLISHMENTS OF THE FAR EAST SOUGHT OUT ISOLATED PEAKS AND PLATEAUS AND IS ALMOST A CHARACTERISTIC OF ALL SUCH RECLUSIVE GROUPS IN MANY PLACES AND AT MANY HISTORICAL TIMES: TAKTSHANZ MONASTERY OF BLUTAN BETWEEN INDIA AND TIBET, BYZANTINE MONASTERIES IN SYRIA, MOUNT AGEUS IN GREECE, MONT ST. MICHEL IN FRANCE. THEY WERE BUILT IN ROCKY HILLSIDES OR STEEP VALLEYS AMID WILD SURROUNDINGS WHOSE NATURALNESS WAS CAREFULLY PRESERVED TO LEND AN AWE-INSPIRING QUALITY OF ALOOFNESS.

NOR DID THE TOTAL LACK OF FEATURES MAKE FOR LESS SECLUSION. ON THE SINAI PENINSULA BOTH CITIES AND MONASTERIES, "BUILT THEIR RAFT ON THE DESERT SEA...WITH NO SYMBOL OF POWER OR WORLDINESS, BUT AN INTENSE FEELING OF BELONGING AND ISOLATION FROM WITHOUT"
ANOTHER VARIATION ON THE THEME OF ROCK DWELLINGS IS EVIDENCED BY THE BEDOUINS, AGAIN OF THE SINAI PENINSULA. THERE THE SPACES CREATED BETWEEN THE HUGE MONOLITHS WHICH SETTLE TO THE BASE OF MOUNTAIN SLOPES SERVE AS SUMMER SHELTERS. AGAIN THE CITY IS THE LANDSCAPE.

IN THE MOUNTAINOUS REGIONS OF BURMA AND PAKISTAN IN THE FAR EAST, WHERE AGRICULTURAL LAND IS AT A MINIMUM, THERE ARE NUMEROUS EXAMPLES OF MOVEMENTS OF ENTIRE VILLAGES TO MORE UNPRODUCTIVE AND RUGGED LOCATIONS, LEAVING THE GENTLER SLOPING SITE TO FOOD-PRODUCING TERRACING.
MESOPOTAMIA AND EGYPT

EARLY CIVILIZATION OF THE FERTILE VALLEYS OF THE NILE AND TIGRIS-EUPHRATES, GENERALLY DEVOID OF SUBSTANTIAL LAND FEATURES, CONSTRUCTED THEIR OWN AS FOCAL ELEMENTS IN THEIR ENVIRONMENTS.

THE SUMERIANS BUILT ARTIFICIAL ZIGGURAT PLATFORMS FOR THEIR TEMPLES, PROVIDING SETTING FOR THE SUMERIAN FERTILITY CULT.


Later, when the castle, and civic and religious center had become traditional.

Not only did the city form adapt, but in many cases, especially those employing non-durable materials, land forms changed as well, after successive constructions on the same site, what may be termed the unconscious topography of the place has left its predecessors buried in the debris of intervening centuries. Troy is a good example of this fact, as are many of the other Middle Eastern towns.

The Egyptian ideals of the after-life gave rise to some of the largest land forms constructed by man. Here protection was assumed by the massive pyramids - the city of the dead within-expressing the natural earthen pile transformed in stone and an easy transition from the plan. Emphasis was concentrated on the eternal urban form of the dead, while the earthly temporal cities were subordinate cellular forms of less durable materials. The Egyptian saw life as a march down an unswerving path - a destiny idea ending in the after-life.

Later the tombs of Mentuhotep and Queen Hatshepsut were terraced colonnaded structures, dramatically situated and slightly inset immediately at the foot of the Theban cliffs.
THEMSELVES SERVING AS THE TOMB AND REPLACING THE PYRAMID

WHICH HAD PROVED AN ILLUSION AS A PROTECTION FROM VANDALS. THE

COLONNADES ECHO THE DROP OF THE CLIFF; THE RAMPS AND TERRACES

EXPRESS THE SLOPES OF THE FALLEN ROCKS.

THE MOUNTAIN OF ABU SIMBEL WAS AN OBJECT OF SPECIAL

VENERATION. HERE THE GREAT TEMPLE AND SMALL TEMPLE, WERE

CONSTRUCTED (OR RATHER SUBTRACTED) BY RAMESSES II FOR HIMSELF

AND QUEEN NEFERTARI.

"BOTH EXAMPLES FREELY INTEGRATE THEMSELVES IN A PREDETERMINED

PART OF THE LANDSCAPE. THE BEAUTY OF THEIR SEVERE LINES

INCREASES THE DIVINE NATURE OF THE SECTION OF THE MOUNTAIN

FORMED BY THE TEMPLES. THUS THIS HARMONY WITH THE SETTING... HAS BEEN WORKED OUT FOR THEOLOGICAL RATHER THAN ARCHITECTURAL

REASONS."

PERSEPOLIS, THE RESIDENCE OF THE PERSIAN KINGS, REPRESENTS

A NEW CITY TYPE. IT WAS A PALACE-CITY AND UNFORTIFIED, YET THE PALACES,

BUILT BY DIFFERENT KINGS, WERE ON A LARGE ARTIFICIAL TERRACE OVER-

LOOKING THE TOWN WHICH SERVED IT, WITH THE VAST PLAIN BEYOND. IT

WAS A CITY FOR THE KING, HIS COURT, HIS NOBLES AND ADMINISTRATION.

HERE THE PERSIANS IN FACT BUILT THEIR OWN SETTING IN AN

ARTIFICIAL FORM YET AS IN THE EGYPTIAN FUNERARY TEMPLES EXPRESSED

THE TRANSITION TO THE MOUNTAIN BEHIND.
MEDITERRANEAN

IT IS IN THE MEDITERRANEAN WORLD, SHORT OF LEVEL LAND, THAT
HILL ENVIRONMENT COMES INTO ITS OWN. HERE, BY WAY OF EXCEPTION
TO GENERAL RULE, THE GREAT CITIES ARE TYPICALLY BUILT ON HILLS —
JERUSALEM, ATHENS, ROME, TOLEDO — ARE ONLY THE MOST FAMOUS OF
SUCH CITIES. IT APPEARS THAT THEIR SITES WERE ORIGINALLY CHOSEN
FOR DEFENSIVE REASONS, AGAINST INVADERS WHO SWEPT ACROSS
THE NARROW, ALMOST TIDELESS MEDITERRANEAN, AND AGAINST THE
MOSQUITOES THAT DOMINATED THE WET COASTAL LOWLANDS. AS
THESE CITIES GREW IN NUMBERS AND POWER, THEY COMMONLY SPREAD
OUT OVER THE INTERVENING VALLEYS, BUT EVEN SO THEIR CORES RE¬
MAINED FIXED ON THE HILLS. THE HEART OF ATHENS WAS THE ACROPOLIS,
"THE HIGH CITY," AND THE HEART OF JERUSALEM WAS MOUNT ZION, WHILE
ROME SPREAD ITSELF OVER SEVEN HILLS. BUT THEY HAVE HAD TO TURN TO
COMMERCE OR LIGHT INDUSTRY FOR AN ECONOMIC BASE, LEAVING HEAVY
INDUSTRY AND MAJOR TRANSPORTATION FACILITIES TO SATELLITE TOWNS
LOCATED IN COASTAL LOWLANDS (JAFFA, TEL AVIV, PIREAUS, OSTIA.)

OTHERS, NESTLED ON THE SOUTHERN SLOPES OVERLOOKING THE
MEDITERRANEAN HAVE HAD THEIR FISHING AND TRADING INDUSTRIES
SUPPLEMENTED AND AT TIMES DOMINATED BY TOURISM, BRINGING THE
VOLUMINOUS HOTEL INTO BEING.

46
CRETE

The island of Crete gave rise to one of the earliest civilizations. In contrast to the elevated citadels and large ziggurats, the royal site served as the center of community life in the Aegean culture. On the island itself, the towns were politically unified and offered natural protection in addition to the Cretan navy. Thus only mainland cities had walls or the central palace fortress as in the early Greek city states. Knossos, Phaestos, and Gournia were the most notable of the island cities; Tiryns and Mycenae represent the mainland.

These early cities of the Aegean were irregular in form. Meandering streets followed the rugged topography of the sites; the streets were narrow lanes. Excavations have revealed highly developed systems of gravity water supply, sanitation, and drainage due to the steep slopes.
GREECE

THE GREEK LAND FORM IS ROCKY AND HILLY; IT IS POWERFULLY ASSERTIVE. IT ROUSED THE ANCIENT GREEKS TO WIDE INTELLECTUAL SPECULATION. THEY ASCRIBED VALUES TO PARTICULARLY PROMINENT OR UNIQUE FEATURES OF THE LAND, AS DID MANY EARLY CIVILIZATIONS. THE HIGH PLACES IN THE LAND BECAME SACRED. THE SMALL, OFTEN ISOLATED VALLEYS OF GREECE DID NOT PERMIT LARGE ECONOMIC UNITS LIKE THOSE OF THE BIG RIVER VALLEYS OF ASIA AND EGYPT. THEY WERE SEPARATED FROM COMPETITORS AND GREEK POWER AND SPLENDOR INSTEAD RESTED UPON SLAVERY, COLONIAL EXPANSION, AND PIRACY. BUT IN EARLY TIMES THE NEED FOR SOME PROTECTION WAS PARAMOUNT INDICATING A SAFE CITY SITE AS EITHER EMPLOYING TOPOGRAPHY, WATER, OR BOTH, AS EASILY DEFENSIBLE LOCATIONS.

ACROPOLIS. IT WAS THE SITE FOR THE TEMPLES OF THE GODS, THEIR
TREASURES, AND THEIR ATTENDANT ARTIFACTS; A CONSIDERABLE AMOUNT
OF ATHENS'S WEALTH WAS SPENT ON THEM. ATHENS PROPER DEVELOPED
BELOW THE ACROPOLIS, STARTING AT THE ENTRANCE TO THE FORTRESS
HILL AND EXPANDING ALONG THE MAJOR ROUTES AS A CIRCULAR CONCEPT
OF SETTLEMENT. THE AGORA—"THE PEOPLE'S PLACE"—DEVELOPED AT
THE FOOT OF THE ACROPOLIS ALONG THE ROUTE LEADING TO ATHENS'S
PORT, PIRAEUS, AND WAS THE CITY'S POLITICAL AND COMMERCIAL HEART.
THE THEATRE WAS INCORPORATED INTO THE SOUTHERN FLANK OF THE HILL,
SO THAT SEATING COULD TAKE ADVANTAGE OF THE SLOPING ROCK.

THE GREEK ATMOSPHERE OF PHILOSOPHY NATURALLY GAVE BASIS
FOR A SEARCH FOR ORDER IN THE CITY. IN THE FIFTH CENTURY B.C.,
HIPPODAMUS, AN ARCHITECT FROM MILETUS, ADVANCED THE "GRID SYSTEM"
OF STREET LAYOUT, A SYSTEM WHICH HAD EXISTED BEFORE AS A GENERIC
URBAN SOLUTION OF NO CRITICAL SIGNIFICANCE; IT EXISTED AS A BASIC
DESIGN PATTERN IN REMOTE PRE-URBAN TIMES. ATHENIANS ALLOWED
THE GRIDIRON TO BE USED BY THE DESPISED TRADING CLASSES AT
PIRAEUS AND OTHER COMMERCIAL PLACES, BUT NOT IN THE AGRARIAN
ARISTOCRATIC CENTERS. THIS CLEAVAGE BETWEEN AGRICULTURAL AND TRADING
URBAN FORMS IS NOTICEABLE INTO THE MIDDLE AGES. THUS THIS BOLD
PLAN IS SEEN IN ALEXANDRIA, EPHESUS, PALMYRA, WHILE ATHENS
REMAINS TEMPERED AND DOMINATED BY THE ACROPOLIS, SUPERIMPOSING
THE RIGID GEOMETRICAL FORM OF THE HIPPODAMIAN STREET SYSTEM
UPON THE RUGGED TOPOGRAPHY OF THE SITES OCCUPIED BY MOST
GREEK CITIES CREATED NUMEROUS STREETS SO STEEP THAT THEY
COULD BE NEGOTIATED ONLY WITH STEPS. AS THE MOVEMENT OF
PEOPLE WAS ALMOST ENTIRELY ON FOOT, THIS DID NOT PRESENT THE
PROBLEM AS ONE WOULD SEE IT IN THE MOTOR CITY.

THE GREEKS HAD A SYSTEM OF CONTROLLED DISPERSION, REALIZING
THAT WITH THEIR RUGGED TOPOGRAPHY NOT ALL SITES COULD ACCOMODATE
UNLIMITED EXPANSION. THEY FELT THAT ONLY BY RELATING A LIMIT
OF EXTENT TO A CORRECTLY DISPOSED INTERNAL PLAN COULD URBAN
UNITY BE SECURED. EXCEPT FOR ATHENS OF 300,000 INHABITANTS AND
CARTHAGE WITH 500,000 CITIES WERE SMALL BUT NUMEROUS.

ARISTOTLE IS QUOTED: "TEN MEN ARE TOO FEW FOR A CITY; A HUNDRED
THOUSAND TOO MANY." 

THEY WERE ENVISIONED AS AREAS OF FINITE SIZE, COMPREHENSIBLE
TO THE EYE, AND POLITICALLY WORKABLE, DESIGNED FROM THE INSIDE
OUT AND ENDING AGAINST EITHER A STEEP HILLSIDE OR SHORE OR BOTH.
THE GREEK SENSE OF THE FINITE IS CLEARLY SEEN IN THE DESIGN AND
SITING OF THEIR BUILDINGS AND TOWNS WHICH NEVER ATTEMPTED TO
OVERWHELM NATURE BUT, RATHER ASSERTED THEMSELVES AS ANOTHER
EXPRESSIVE COMPONENT. THUS THE HIGHPOINT OF HELLENIC-HELENISTIC
Phase of civilization established certain main principles destined to govern the disposition and use of cities in succeeding ages and then largely ignored in modern times. These may be summed up as:

- Predetermined size and design
- A reasoned adaptation to physical conditions of carefully chosen sites, preferably with southern exposure
- A clear-cut form and protective enclosure
- A comprehensible and attractive communal center as the focal and general assembly point of the town

"With their towns being well-planned, self-contained, and excitingly sited, there was no need at all for ruralized urbanism."\(^9\)

Examples:

- Delphi, Olympia, Epidaurus (200 B.C. - 500 B.C.)

Even better than in Athens, the topography of the site showing organization of elements can be seen in cities such as Delphi or Olympia and Epidaurus where owing to their religious associations, the attributes of acropolis and agora are combined. At Delphi for instance, additional features include numerous monuments, sanctuaries, treasuries, and even a stadium, all arranged to obtain the maximum pictorial effect from the steep slopes and elevated position of the natural terrace. (With the Romans the theatre was removed from its hillside and built as a standing structure in the center of the town.)
Pergamon, 100 miles north of Priene was in a similar situation removed from its own small harbor town of Elea; building on the ridge of a steep mountain offered only a limited amount of space for the community, thus the siting of its so-called upper city, its temples and other important buildings. It is an isolated rock over 1000 feet high and at its summit they are dispersed on a series of terraces and rocky platforms forming a curved composition. A huge artificial terrace spreads across the whole length of the slope below these. The theatre's position on the steep slope is typical for all Greek towns and was designed to achieve a great number of seats with little construction, combined with a dominating position and a view over the surrounding coast scenery.

A lower city with temples of its own, is spread over the southern slope and outwards from the base of the rock.

"The general form and treatment of this Alexandrian city has been praised for its monumental expression of unity and logical adaptation to the site. Though the buildings are not all of one period, the layout suggests the work of a single mind; and that the designers sacrificed none of the fundamentals of use to effect a parallelism, recognizing that sense of direction and symmetry is lost when a steep, irregular hill is being ascended. This truth has an important bearing on the academic aspect of planning and gives support to the avoidance of extremes of formality not logically related to circumstances."
THE TOWN OF OLYNTUS CONVEYS SOME IDEA OF THE EARLY
FORTRESS CITY ON THE HIGH ACROPOLIS SITE AND THE IRREGULAR
STREET LAYOUT WITH THE LATER APPLICATION OF THE HIPPODAMIAN
PLAN.

CONTRASTING WITH THESE CONSIDERATIONS IN THE GREEK CITY
IS THE SUGGESTION WHICH STASICRATES, A GREEK ARCHITECT, MADE
TO ALEXANDER. PLUTARCH IN LIVES, ALEXANDER RELATES:

HE ALWAYS PROMISED SOMETHING VERY BOLD, UNUSUAL, AND
MAGNIFICENT IN HIS PROJECTS. ONCE WHEN THEY HAD MET
BEFORE (WITH ALEXANDER) HE HAD TOLD HIM THAT OF ALL THE
MOUNTAINS HE KNEW, THAT OF ATHOS, IN THRACE WAS THE MOST
CAPABLE OF BEING ADOPTED TO REPRESENT THE SHAPE AND
LINEAMENTS OF A MAN; THAT IF HE PLEASED TO COMMAND HIM,
HE WOULD MAKE IT THE NOBLEST AND MOST DURABLE STATUE IN
THE WORLD, WHICH IN ITS LEFT HAND SHOULD HOLD A CITY OF
TEN THOUSAND INHABITANTS, AND OUT OF IT RIGHT HAND SHOULD
POUR A COPIOUS RIVER INTO THE SEA.¹¹

THIS MOUNTAIN STATUE WAS TO RESEMBLE ALEXANDER; HOWEVER, HE
REFRAINED FROM ORDERING IT BUILT.
ITALY (ROMAN)

THE TOPOGRAPHIC STRUCTURE OF ITALY IS FAIRLY SIMPLE. THE APPEXINES DIVIDE THE PENINSULA INTO TWO HALVES. ON EITHER SIDE THE MOUNTAINS DIMINISH INTO LOWER HILLS SLOPING TOWARD A MORE OR LESS EXTENDED PLAIN ALONG THE SHORE WITH SOME SMALL HILLS RISING ABOVE IT. IT WAS A LAND WELL FITTED FOR HUMAN HABITATION.

HERE IN THE MIDDLE OF THE WESTERN SIDE ALONG THE PO RIVER THE LATINS ENTERING FROM THE NORTH MADE THEIR SETTLEMENTS.

THE ADVANTAGES OF ROME'S LOCATION WERE OFFSET BY SOME DISADVANTAGES. THE TERRITORY WAS LESS FERTILE; THE PO FREQUENTLY OVERFLOWED ITS BANKS; THE NATURAL DRAINAGE WAS SO IMPERFECT THAT IN RAINY SEASONS, WATER FROM THE HILLS TURNED LOWLANDS INTO MARSHES. TO AVOID THE MARSHES THE PEASANTS WERE FORCED TO BUILD THEIR SETTLEMENTS ON THE MORE AIRY AND FIRM HILLS. THE INTEGRATED COMMUNITY WHICH DEVELOPED WAS AN ADVANCE OVER THE TYPICAL LATIN PATTERN AS WELL AS A BENEFICIAL DEFENSE.

THE TRUTH OF ROME'S ORIGIN FROM SEVEN VILLAGES ON SEVEN HILLS IS DISPUTED. BUT IT IS KNOWN THAT THE PALATINE HILL BECAME THE SEAT OF THE ROMAN COMMUNITY AND WAS SURROUNDED.
AUGUSTUS TAURINORUM, WHICH DEVELOPED INTO CITY OF TURIN

ROMAN COLONIAL CITY OF AUGUSTUS TAURINORUM, WHICH DEVELOPED INTO CITY OF TURIN
BY A WALL. LATER A NEW STRONGHOLD WAS BUILT ON THE TARPIAN
HILL—NOW THE CAPITOL HILL.

SOON AFTER, ROME SUFFERED FROM PERIODIC REBUILDING AND
THE EXPRESSION OF THE HILLS WAS TO BECOME ALL BUT LOST. THE
LEGENDARY FAME OF ROME WAS NEVER MATCHED BY A CORRESPONDING
CONDITION OF EXCELLENCE IN URBAN FORM.

CONSTANTINOPLE, THE NEW ROME WAS FOUNDED AS A REPLACEMENT
OF THE WEAKENED ROME:

"THE ARCHITECTURAL CHARACTER OF CONSTANTINOPLE IS DETERMINED
BY THE TOPOGRAPHY OF ITS SITE. THE CITY WAS IRREGULAR ON ITS
HILLY NORTH SIDE, MORE REGULARLY LAID OUT ON THE SOUTH. THE
HILLS WERE RECOGNIZED ALWAYS AS NATURAL SITES FOR SIGNIFICANT
BUILDINGS. THE GREEKS HAD ONCE BUILT THEIR TEMPLES THERE.
NOW THEY BECAME SITES FOR CHRISTIAN CHURCHES. LATER THE
MOSLEM WOULD CROWN THEM WITH MOSQUES. THESE MOSQUES
DOMINATE THE CITY WITH DOMES AND SEMI-DOMES, WHICH CONTRAST
EFFECTIVELY WITH THE HORIZONTALITY OF THE HOUSES ON THE HILLS
AS THESE FOLLOW THE ELEVATION AND ARE LIKE TERRACES ATTACHED TO
IT." 12

OTHER ROMAN CITIES, AS EXTENSIONS AND OUTPOSTS OF THE
ROMAN EMPIRE WERE GENERALLY OF MILITARY ORIGIN. AS SUCH
THESE CASTRA, AS THEY WERE CALLED, WERE OF A WELL ESTABLISHED
ORDER AND FOR THE MOST PART INDEPENDENT OF THE TERRAIN. SUCH
IS THAT OF TIMGAD, NORTH AFRICA, A ROMAN COLONIAL TOWN,
FOUNDED BY TRAJAN.
ITALY (HILL TOWNS)

The "Roman" towns of the north - Como, Novara, Brescia, Faenza, Lucca - all preserved, as would be expected, a sense of orderly arrangement in advance of the average of the rest of Europe, or even of Italy. On flatter ground the shape of towns tended to be geometric regularity: the square, rhomboid, polygon and later, and especially on the crown of hillocks, the circular form. Generally in Italy, however, the logic of contouring and the advantageous use of existing physical features gave a new dimension to the town, especially noticeable on hilltops or hillsides - Siena, Lucignano, Volterra, Perugia, Assisi, Cortona - located in rough, undulating, or mountainous country.

It is in the hill towns that the structural and aesthetic genius of Italy is seen at its best. Despite the fact that recorded history throws little light on the procedures adopted for founding them and their early development, one can nevertheless appreciate the results, most appear in mountainous regions with medieval origins and appear as rational outcome of conditions - strategic, functional, convenient, and scenic attractiveness - that fitted the needs of the time.
THE SOUTHERN HILL SLOPES WERE USED FOR VINEYARD CULTURE
AND FOOD-GROWING. IF SUCH REASON AS WELL AS AVOIDING DAMPNESS
OF THE VALLEY FAVORED NEARBY MOUND AND HILLTOP SITES, THE
EFFECTIVE USE OF SUCH LOCATIONS ALSO SPEAKS WELL FOR THE ENTER¬
PRISE AND SKILL OF ITALIAN BUILDERS. NO OTHER COUNTRY DEVELOPED
URBAN FORMS ON SLOPING GROUND TO SUCH ADVANTAGE OR RELATED
THEM SO FITTINGLY TO THEIR SETTING.

WHETHER THEY WERE LARGE OR SMALL, THE HOUSES WERE
INVARIBLY COMPACTLY ARRANGED, RISING IN TERRACED FORMATION
WITH STREETS PLANNED ACROSS THE SLOPE AND FOLLOWING THE
UNDULATIONS OF TOPOGRAPHY. IN THIS WAY COMPACTNESS OF ARRANGE¬
MENT AND ECONOMY OF CONSTRUCTION WERE ACHIEVED WITHOUT SACRIFICE
OF SUNSHINE, SHADE, AND THE ATTRACTION FOR LEVEL CHANGES AND
OUTLOOKS.

THE IRREGULAR GROUND FORMATIONS OF THE HILL COUNTRY
PRODUCED THE STRAGGLING FORMATIONS OF SIENA, PERUGIA, VOLterra
AND OTHER CITIES OF THE MOUNTAINOUS AREA OF TUSCANY, WITH GUBBIO
SHOWING HOW EFFECTIVELY A HILLSIDE TOWN COULD BE BUILT ACROSS
THE SLOPE. IN THAT QUARTER OF ITALY THE CITIES WERE, BY THEIR
MOUNTAINOUS SITUATION, MORE EASILY DEFENSIBLE, AND THEIR WALLED
ENCLOSURE BECAME LESS FORMIDABLE, THE STRAGGLING LINES OF THE WALL
57
AND STREETS WERE ANYTHING BUT ARBITRARY, AND PLANS, SHOWING
CONTOUR IRREGULARITIES MAKE CLEAR THE ACCOMMODATING SOLUTION.

SECLUSION AND SOME DEGREE OF PROTECTION WAS A FACTOR. THE
RISKS AND SUFFERINGS OF WARFARE WERE RARELY ABSENT EVEN IN
THESE SMALL HILLSIDE COMMUNITIES IN RELATIVELY OUT-OF-THE-WAY
LOCATIONS. IN SOME CASES THE SMALL COMPACTLY ARRANGED TOWNS
WERE SO BUILT THAT EACH FAMILY BECAME, IN EFFECT, A GUARD UNIT
OVERLOOKING THE SURROUNDING COUNTRYSIDE.

TOWNS WERE USUALLY OF 10,000 OR LESS, BUT MERE SIZE WAS
Seldom measure of their attraction or amenities. They were
generally small because as in all the agricultural towns of
Europe, they were limited by the extent of their agricultural
hinterland. The roads and other travel routes usually were
related to the ridgetops or the valleys. Typically roads avoided
the slopes. Later, railways usually avoided the ridgetops as well
and funneled through the stream valleys.

San Gimignano, on a round hill amidst rolling country-side,
Served to extend nature itself. Once having nearly sixty
slender stone towers, the treasuries and strongholds of the
city's wealthy citizens, as well as their ostentatious displays,
THAT NUMBER HAS NOW BEEN REDUCED TO ABOUT THIRTY BUT SUGGESTS THE
PREVIOUS SKYLINE. THEY RISE FROM HOUSES OF TWO AND THREE
STORIES, SHORTER CUBE-LIKE TERRACES.

ASSISI, THE HILL TOWN OF ST. FRANCIS, RESTS ON A LONG HILL
RIDGE WITHIN FARMLAND AND TERRACED HILLSIDE. MOST OF THE
TOWN IS ON THE SOUTHERN SIDE OF THE SLOPES TO TAKE ADVANTAGE
OF THE SUNLIGHT AND WARMTH. THE CATHEDRAL AND ASSOCIATED
MONASTERY GROUPING IS LOCATED ON A MASONRY TERRACE EXTENDING
ONE END OF THE HILL. THE TOWN PROPER SUBTLY EXTENDS THE
VERTICAL WHILE THE CHURCH GROUP IS AN EXTENSION OF THE OVERRIDING
THEME OF THE HILL, ITS LENGTH.

ST. FLOUR, SIMILAR TO MANY OF THE ITALIAN FORTRESS HILL
TOWNS, SERVES AS A SENTINEL AMONG RUGGED VALLEYS AND HILLS
WHICH WERE DIFFICULT TO TRAVERSE EXCEPT THROUGH THE VALLEY
WHICH ST. FLOUR GUARDED. THE SINGULAR EXPRESSIVE TOWER
PROJECTS ABOVE THE MOTTLED SILHOUETTE.
CENTRAL EUROPE

The Neolithic populations of Europe either sought out a protective settlement in the hills or surrounded themselves with ditches, earthworks or stockades. In swampy locales the hill provided the only logical site. As settlements became more agrarian the forest villages became common. Local communication being important the most common locations were minor ridgetops or valleys. In those places of periodic flooding or dampness the villages moved up the slopes.

Settlements were characteristically strip villages, either linear along ridgetops and valleys or ring villages on hilltops with radiating fields down the slopes. Even these had to fulfill the defensive functions because they were the sole and earliest forerunners of the fortress town. Ring villages especially lent themselves to this purpose. It was a very rational type settlement, yet considerable, systematic planning and execution were needed to arrive at such a single, yet functional plan, expressing a strong coherence and an impressive architectural formation. The ring fence village could not be extended; it existed as a stable unit. It was obviously a reinforcement of the topographical features provided.

60
THE URBAN FORM OF CENTRAL EUROPE FROM THE MOTTE AND
BAILEY EARTHWORKS OF EARLY FOREST VILLAGES THROUGH THE MEDIEVAL
PERIOD AND TO THE RENAISSANCE CONTINUED TO REFLECT THE OVERRIDING
THEME OF USING TOPOGRAPHY AS A DEFENSIVE MEANS. THE HILLTOPS
WERE SOUGHT IN THOSE PLACES WHERE PROTECTION FROM INVADERS
AND OPPOSITION GROUPS WAS A FACTOR. ALSO, A STREAM—THE NATURAL
ROADWAY—WAS DESIRABLE. THUS MANY SETTLEMENTS DEVELOPED ON
HILLS IN RIVER VALLEYS, COMMANDING THEM AND MAKING THEMSELVES
ACCESSIBLE AS WELL BY THE ROADWAYS AND LATER RAILWAY; OTHERS
SACRIFICED THE COMMUNICATION ELEMENT. AS THE TOPOGRAPHY
BECAME MORE RUGGED OR THE MILITARY CONSIDERATION OF LESS
IMPORTANCE TOWNS HAD MORE FREEDOM OF LOCATION, YET THE TOPOGRAPHIC
FEATURES CONTINUED TO BE ATTRACTIVE AS TOWNSITES AND WERE ALSO
MORE CONDUCIVE TO HABITATION THAN AGRICULTURE EVEN IN THE
FERTILE AREAS. AS LONG AS THE TERRAIN WAS RELIED UPON, THE
FORMS WERE INFORMAL AND WITHIN A WIDER ORGANIZATION.

ANOTHER FACTOR, IN ADDITION TO DEFENSE, TO A LARGE DEGREE
CONTRIBUTED TO HOW A CIVILIZATION, AND MORE SPECIFICALLY THE
URBAN FORM, RELATED TO TOPOGRAPHY. IT CONCERNED THE DISTINCTION
BETWEEN TWO MAJOR CITY TYPES: THE FREE CITY AND THE AUTOCRATIC
CITY.13 (SIMILAR TO THE AUTOCRATIC CITY IN CONSIDERATIONS OF
TOPOGRAPHY WERE THE LATER COLONIAL AND SPECULATIVE CITIES.

THE FORM OF THE FREE CITY TENDED TO BE ORGANIC. IT REFLECTED
THE SPIRIT OF CITIES SELF-RULED AND BASED ON A VOLUNTARY ORGANIZATION
OF CITIZENS. THEY HAD A CLEAR CONCEPTION ABOUT THEIR OWN
PARTicular CITY THEY WANTED, ITS ARRANGEMENT, AND THE RELATION
OF ITS PARTs TO THE WHOLE AND TO EACH OTHER. THE VARIED NEEDS
OF THE COMMUNITY WERE MET, TAKING ADVANTAGE OF THE TOPOGRAPHY
AS IT WOULD SERVER THEIR SPECIAL NEEDS. CHANGES WERE MADE AS
THE CHANGES BECAME DESIRABLE. IT IS THIS ORGANIC FORM IN
BOTH PLAN AND MASSING WHICH GAVE THE CITY ITS PARTICULAR
CHARACTER DUE TO ADAPTATION TO TOPOGRAPHICAL FEATURES. IT WAS A
UNIVERSAL CITY TYPE OCCURRING IN WIDELY SEPARATED LOCATIONS AT WIDELY
SEPARATED TIMES. IT WAS THIS TYPE OF CITY WHICH WAS ABLE TO
EXPRESS THE SITE PRESENTED. THE FACTOR OF DEFENSE DID NOT
CHANGE THE CITY TYPE; BOTH THE AUTOCRATIC AND THE FREE CITY
REQUIRED PROTECTION. THE SOUTH AFRICAN HILL VILLAGES, ITALIAN
HILL TOWNS AND MEDIEVAL TRADING CITIES ARE EXAMPLES OF THE TYPE.
THEY ARE IMPRESSIVE BY THEIR NATIVE SIMPLICITY.

OF THE AUTOCRATIC TYPES THE COLONIAL ROMAN TOWNS SERVE
AS ILLUSTRATION. THEIR LOCATION WAS NECESSARILY FOR DEFENSE
PURPOSES BUT THEIR CONFIGURATION WAS A GEOMETRICAL ONE. THEY
WERE CONCEIVED AS COMPREHENSIVE SOLUTIONS TO THE PLAN OF A
CITY, NOT ESPECIALLY TO A PARTICULAR LOCATION; THEY WERE A
FORMULA, THUS THE GEOMETRIC PLAN BECAME THE TYPICAL PLAN
FOR THE FLAT TERRAIN. THE ORDER WAS IMPOSED. BUT OFTEN THE
GEOMETRIC WAS USED IN LOCATIONS WHICH MORE APPROPRIATELY
SUGGESTED THE INFORMAL.

THE NEXT MAJOR DEVELOPMENT IN CENTRAL EUROPE WAS THAT
OF THE MIDDLE AGES. THE PEOPLE HAD ENTERED A STATE OF SERFDOM
UNDER THE VASSALS OF THEIR BARBARIC RULERS. THE NATURAL OUT-
GROWTH OF THE HILL VILLAGES WAS THE MOTTE AND BAILEY CASTLE
TOWN. THE ANGLO-SAXON CASTLE MOUNDS ARE EARLY EXAMPLES OF
THE ARTIFICIAL EARTHWORKS OF THIS TYPE.

TOWNS ALSO GREW OUT OF THE ROMAN OUTPOST SETTLEMENTS,
ASSUMING THE SAME SITE OR ONE OF EVEN MORE INACCESSIBLE
LOCATION THEY NOW HAD MORE FORMIDABLE WALLS, DUE TO INVENTIONS
OF THE BATTERING RAM AND CATAPULT, IN ADDITION TO STRATEGIC SITING.
THE GROWTH OF THE TOWN AROUND EITHER THE MONASTERY OR CASTLE
WAS A NATURAL ONE, EITHER ON THE HILL ITSELF (MONT ST. MICHEL)
OR BEGINNING AT THE BASE AND GROWING OUTWARD (ST. MICHEL D' AGUILHE)
- THE UPPER AND LOWER TOWN. FOR THE PEOPLE SUCH HILL TOWNS WERE
DOMINANT SYMBOLS, A FURTHER REINFORCEMENT OF THE SITE; THEY
SERVED AND SUPPORTED THEM BY THEIR LABORS. IN EARLY MEDIEVAL ILLUSTRATIONS, PAINTINGS, OR MANUSCRIPT DRAWINGS, THE HILL TOWN WAS PORTRAYED AS AN OBJECT IN THE LANDSCAPE, DOMINATING AND ALOOF. LATER AS THE CASTLE BECAME A LARGER TOWN FILLED WITH MERCHANTS, TRADEMEN AND CRAFTSMEN, THE HILLTOWN CHANGED FROM A THING IN THE DISTANT LANDSCAPE TO AN ENVIRONMENT FOR PEOPLE FOCUSED ON ITS ELEVATED CENTER, THE CASTLE OR CHURCH. NOW ELEMENTS WERE ADDED TO THE NATURAL DOMINANTS. ROTHENBURG, FRIBOURG, BERN, BASLE, EDINBURGH ARE JUST A FEW OF THIS TYPE.

ALL SETTLEMENTS WERE NOT ATTACHED TO THE HILL HOWEVER. IN THE CASE OF ST. ALBANS, IT WAS FIRST FOUNDED BY THE CELTS ON A HILL, LATER AS A ROMAN CAMP IN THE PLAIN, AND IN THE MIDDLE AGES BUILT AGAIN ON THE TOP OF THE HILL.

THE NUMBERS OF TOWNS INCREASED RAPIDLY DURING THE MIDDLE AGES, BUT THEY REMAINED RELATIVELY SMALL. THUS THE HILL RIDGE OR VALLEY STILL CONTAINED THE TOWN. LONG-DISTANCE COMMUNICATION WAS NOT SO IMPORTANT; THE TOWNS WERE CLOSE AND FACILITIES FOR TRANSPORT CUMBERSOME. SOME RIDGE TOWNS SUCH AS BERN WERE ABLE TO KEEP THEIR BASIC CHARACTER THROUGH 1800.

AS TRADE AND MERCANTILISM BEGAN TO INCREASE, THE COMMUNICATIONS STRENGTHENED, THREADING THE VALLEYS OF LEAST RESISTANCE. CONCENTRATIONS OF POPULATIONS GREW AT THE CROSSROADS OF THESE ARTERIES.
PROTECTION FROM THE NEW GUNFIRE REQUIRED EXTENSIVE EARTHWORKS IN THE PLAINS. WITH NEW METHODS OF FORTIFICATIONS, THERE WAS LESS EMPHASIS ON A STRATEGIC SITE AS A PROTECTIVE DEVICE.


AT THE SAME TIME THE INCREASING POPULATIONS COUPLED WITH THE ATTITUDES OF THE INDUSTRIAL TOWNS DEMANDED RAPID ORGANIZATION. THE RADIAL BECAME THE GRID AND THE INDUSTRIAL TOWN SPREAD OVER ANY UNCHALLENGING LANDSCAPE.

IT WAS ONLY A NATURAL PARADOX THAT OUT OF THIS SHOULD COME A REVERSE MOVEMENT. THE COLUMBIAN EXPOSITION OF 1893 LAUNCHED THE "CITY BEAUTIFUL MOVEMENT" AND A WAVE OF CITY PLANNING. IN THE U. S. DANIEL BURNHAM WAS TO DO A NEW SAN FRANCISCO PLAN AS WELL AS FOR MANILA AND BAGUIO IN THE PHILIPPINES. THE MEN OF THIS MOVEMENT TOOK A NEW LOOK AT HOW THE URBAN FORM AND THE LAND THAT IT OCCUPIED WERE TO JOIN. THE CRITICAL ESSAYISTS,
KARLSRUHE
FORMAL FRAMEWORK

GREENBELT, MARYLAND
TOPOGRAPHIC FRAMEWORK
AMONG THEM RUSKIN, GEDDES, AND MARSH BEGAN VOICING THEIR LITERARY IRE AT THE RELATIONSHIP OF MAN AND HIS ENVIRONMENT.

ALONG WITH THEM WAS EBENEZER HOWARD WHO PUBLISHED HIS IDEAS IN 1898, AS THE "GARDEN CITY". WITH ITS PRESERVATION OF OPEN SPACE, THE TOPOGRAPHY OF THE LOCALE WAS GIVEN A NEW ROLE BUT ITS EXTENT WAS CHIEFLY IN THE PLANNING OF STREETS ALONG CONTOURS. THE CONCEPT OF VISUALIZING THE DEVELOPMENT AS A WHOLE IN THREE DIMENSIONS WAS NOT APPARENT. IT WAS ALSO THAT THESE CITIES WERE OFTEN LOCATED IN PLACES OF SUBTLE GROUND CONFIGURATION.

BUT IT WAS IN PLANS SUCH AS THESE, WORKED OUT AS A WHOLE THAT THE FEATURES SHOULD HAVE AND COULD HAVE RECEIVED REINFORCEMENT, NOT A QUESTIONABLE EXPRESSION. FORGOTTEN WAS THE INVENTORY OF THE PHYSICAL STRUCTURE OF THE SITE; REMEMBERED WAS THE PPA FIGURES. AMONG THE NEW UTOPIAN PLANNERS (SORIA Y MATA, RAYMOND UNWIN, LE CORBUSIER, JOSE SERT) WAS TONY GARNIER WHO PRESENTED HIS IDEAS IN 1917 FOR LA CITE INDUSTRIELLE. RECOGNIZING THE SITE CONDITIONS AS A GIVEN FORCE AND A FRAMEWORK FOR ORGANIZATION, AND NO REGARD FOR MONUMENTAL SYMMETRY.

GARNIER'S SEPARATION OF THE CITY'S PARTS ANTICIPATED MODERN ZONING, BUT WITH CONSIDERABLE APPROPRIATENESS, FIRST DECIDING WHERE THINGS SHOULD BE MOST LOGICAL AND THEN LAYING OUT AREAS ACCORDING TO THOSE DECISIONS. THE INDUSTRY WAS LOCATED IN THE...
GARNIER'S LA CITE INDUSTRIELLE, 1917
CITY ORGANIZATION DEPENDENT UPON TOPOGRAPHY
FLOOR NEAR THE RIVER AND RAILWAY. SEPARATED BY PARKS AND ON
A HIGHER TERRACE WAS THE LINEAR RESIDENTIAL UNIT OF ELONGATED
BLOCKS AND TRAFFIC ARTERY REINFORCING THE HORIZONTALITY OF THE
LONG HILLSIDE. ABOVE, WITH TERRACES FACING SOUTH, WERE THE
HOSPITALS. A NEARBY DAM FURNISHED POWER.

A LATER EXAMPLE ESTABLISHING TOWNS ACCORDING TO SITE
CONDITIONS CAME FROM NATIONALIST—SOCIALIST GERMANY OF ALL
PLACES IN 1938. GERMANY'S PLANNING OF THAT TIME IS GENERALLY
CONSIDERED AS A QUEST FOR SIZE—OF VAST SPACES OMINIOUSLY
CONTROLLED BY CRUELLY WHITE STRUCTURES. CHRISTIAN F. OTTO
POINTS OUT:

"...PREVALENT WAS THE IDEAL CONCEPT OF "DAS VOLK". THE SIZE
OF THE NEW TOWNS OF 1938 WAS SET AT 20,000, A SIZE CALCULATED
TO AVOID THE DISADVANTAGES OF BOTH METROPOLIS AND VILLAGE, AND
AT THE SAME TIME TO INCLUDE THE ADVANTAGES OF BOTH VILLAGE AND
CITY. THREE DIMENSIONALLY, THEY WERE TO APPEAR AS SQUAT CONES
...WITH BUILDINGS TAKING THEIR SITE, SIZE AND SHAPE IN THE HIERARCHY
FROM PERIPHERY TO THE CENTER ACCORDING TO THEIR SIGNIFICANCE IN
COMMUNITY LIFE. IT WAS A LAW OF POLITICAL ORDER, PHYSICALLY EX-
PRESSED WITH THE TOPOGRAPHY.

...ARCHITECTURAL GROUPING WAS TO BE EXPERIENCED AS A
CONTINUATION OF THE WORLD OF FORMS CREATED BY NATURE...THE
STREETS MUST ALSO CONFORM: THEY CANNOT BE A GRID BUT MUST
'GROW FROM THE SOIL...BE ONE WITH ITS NATURAL FORM, THE SPECIFIC
GEOMORPHOLOGICAL RELIEF.'

THE ROMANTICISM HELD THAT GERMANY'S NATIONAL TRADITION IN
ITS PUREST FORM...WAS TO BE FOUND IN THE MEDIEVAL ERA. IT IS
THUS THEREFORE NOT SURPRISING THAT WE FIND IN THE GERMAN MIDDLE AGES
SEVERAL COUNTERPARTS OF THE NAZI CONCEPTION OF THE NEW TOWN,
MORPHOLOGICALLY, ARCHITECTURALLY, AND THE MANNER IN WHICH THE TOWN IS SET INTO THE TOPOGRAPHY."¹⁴

WESTERN URBAN FORM

THE HISTORY OF THE URBAN FORM IN THE AMERICAS CAN BEST
BE DESCRIBED AS THE FOUR-HUNDRED-YEAR OPPORTUNITY TO TAKE A
FRESH LOOK AT THE URBAN ENVIRONMENT AND TO CREATE A NEW AND
THREE-DIMENSIONAL URBAN FORM OUT OF THE WILDERNESS. THIS
OPPORTUNITY WAS NOT TO BE REALIZED. THE EUROPEAN SETTLERS,
IN MOST CASES, ADOPTED THEIR CHARACTERISTIC NATIONAL FORMS
INTO THE NEW TERRITORY. WHILE A DISTINCTION BETWEEN ARCHITECTURE
AND PLANNING WOULD OFTEN BE DIFFICULT IN THE EUROPEAN HISTORICAL
SURVEY, IN THIS COUNTRY URBAN ARCHITECTURE AND URBAN PLANNING
CAN BE READILY DISTINGUISHED, IF NOT COMPLETELY SEPARATED. WITH
SOME EXCEPTIONS, THE AMERICAN CITY FORM HAS BEEN ESSENTIALLY
A TWO-DIMENSIONAL PURSUIT, OR CONTINENTAL EXTENSION OF THAT
WHICH WAS APPEARING IN EUROPE AT THE SAME TIME.

DURING THE EARLY PERIOD OF COLONIZATION INNOVATIONS IN
COMMUNITY LAYOUT RARELY APPEARED. THE PLANS OF VILLAGES AND
TOWNS, AND THEIR SURROUNDING AGRICULTURAL LANDS, CLOSELY
RESEMBLED, IF THEY DID NOT ACTUALLY DUPLICATE, THE CONTEMPORARY
PATTERNS OF LAND DIVISION AND ALLOTMENT ALREADY FAMILIAR TO
THOSE COMING TO AMERICA FROM THE COLONIZING COUNTRIES OF
EUROPE. BUT SOME NEW OR MODIFIED COMMUNITY PLANS EMERGED IN
RESPONSE TO NOVEL REQUIREMENTS OR CHANGED CIRCUMSTANCES. THAT NEW FORMS WOULD EXTEND FROM THESE ORIGINAL PLANS REMAINED TO BE SEEN.
EARLY CIVILIZATIONS

Perhaps at this point one should make mention of those rather complex urban establishments which pre-dated and in some cases degenerated previous to the European influx. It is in these cultures that there existed a more complete regard for the three-dimensional urban form and its association with the landforms where they were located. The uniqueness and notoriety of the Inca, Mayan, Southwest Cliff Dwellers and to some extent, the Hopi lies in this very fact.

At the same time the creative Indian Mound of the Great Plain Indian was the predecessor of the West Coast suburban homesite terracing and the open pit mine of man's artificial land forms.

SOUTHWEST CLIFF DWELLERS

The cliff dwellers of the Southwest were an American Indian tribe called the Anasazi. By 500 A.D. they had established agriculture and settled on the mesa tops in half-underground houses. In 1100 the move was made to the strongholds under shelter of the sandstone cliffs, yet there is little evidence to justify the fact that the move was due to defensive reasons.
SOUTHWEST CLIFF DWELLINGS
AGRICULTURE ON THE UPPER MESA RECEIVED MAXIMUM SUNLIGHT
AND WAS IRRIGATED AS THE VILLAGE WAS SUPPLIED BELOW BY SYSTEMS
OF RAIN COLLECTION CANALS AND A RESEVOIR. THE CIVILIZATION
MYSTERIOUSLY LEFT THE CLIFFS ABOUT 1300 POSSIBLY DUE TO SEVERE
DROUGHT AND SANDSTORM.

CERTAINLY THEY ORGANIZED WITHIN THE LANDSCAPE IN A TOPOGRAPHICALLY EXCITING MANNER—ON A SHELF JUST BELOW THE GREAT SANDSTONE OVERHANGS. THEY PROVIDED AN ALMOST ENTIRE NATURAL SHELTER, AND ADDITIONAL LIVING SPACE COULD BE OBTAINED BY ROOFING THEIR DWELLINGS AS WELL. THAT THESE HABITATIONS TOOK ADVANTAGE OF THE AMENITIES PROVIDED BY THE NATURAL FORMS IS OBVIOUS. THE ARCHITECTURE WAS A COMBINATION OF HOLLOWING THE STONE AND BUILDING STONE AND ADOBE STRUCTURES ON MYRIAD LEVELS; AS A RESULT THE ARCHITECTURE AND PLANNING ARE INSEPARABLE. TECHNOLOGY WAS LIMITED; THERE WAS NO COMPETITION WITH THE EARTH FORMS. IT EXISTED WITHIN THE LANDSCAPE AND BECAME MERELY A PART OF IT, AFFECTED BY THE TOPOGRAPHY OF ITS LOCATION.

THE CONCEPTS OF A DISCIPLINED, COMPREHENSIBLE FORM AND SENSE OF PLACE ARE EVIDENT, EXPRESSING A HIGH LEVEL OF SOPHISTICATION AND INITIATIVE. GROWTH BEYOND A POINT WAS LIMITED, BUT THE PROBLEM WAS NOT A CRITICAL ONE, AS THE POPULATION REMAINED RELATIVELY STABLE.
MACHU PICCHU, ANCIENT CITY OF PERU

THE PRE-COLUMBIAN INCA CITY IS SAID TO HAVE BEEN BUILT IN THE MOST INACCESSIBLE CORNER OF THE MOST INACCESSIBLE SECTION OF THE CENTRAL ANDES. IT WAS FOUND ONLY BY ACCIDENT IN 1911 BY HIRAM BINGHAM, LEADER OF A YALE UNIVERSITY EXPEDITION.

IF THE WORK OF ART IF BORN OF THE SKILLFUL UNION OF ARCHITECTURE WITH THE GROUND, MACHU PICCHU IS THAT, SINCE IT IS THE MOST OUTSTANDING CHARACTER OF THIS URBAN FORM. THE SELECTION OF THE SITE AND THE DISTANT AND UNKNOWN ACT OF ITS FOUNDING ARE UNEXPLAINED EVENTS. REASONS OF A MILITARY NATURE ARE NOT SUFFICIENT TO EXPLAIN ITS LOCATION AT A HEIGHT 2000\(^1\) ABOVE THE URABAMBA VALLEY. THE ANCIENT PERUVIANS CLIMBED TO THE VERY TOP IN SEARCH OF THE HORIZON OR TO BETTER PURSUE THEIR ASTRONOMICAL INTERESTS, AND, IN ITS ABRUPT TOPOGRAPHY, SACRIFICED PHYSICAL SPACE KNOWING THAT "THE SPIRIT REQUIRES MORE SPACE THAN THE BODY".\(^{15}\) PERCHED ON THE MOUNTAIN PEAK AND GIVING THE SENSATION OF STANDING ON AN ABYSS—ESCARPMENTS, ABRUPTNESS, VERTICALITY ON EVERY SIDE—WHITE GRANITE BUILDINGS COMBINE TO FORM TIERS OF TERRACES AT VARIOUS LEVELS.

MACHU PICCHU IS COMPOSED OF SIX PYRAMIDAL DISTRICTS—THREE EASTERN, THREE WESTERN, PLUS A CENTRAL URBAN PLAZA AND AGRICULTURE
OR TERRACE SECTOR THAT DESCENDS IN STEPS ON THE LOWER, OR EASTERN SIDE, PLANNED SO THAT THE WATERS OF NEARBY SPRINGS COULD REACH IT FOR PERIODIC IRRIGATION. AN ADDITIONAL LOOKOUT WAS DEPLOYED ON A SMALL TALLER PEAK.

COMMUNICATION AND TRANSPORTATION WAS BY PEDESTRIANS OR LLAMAS ON NARROW STREETS, STAIRWAYS AND STEPPED MOUNTAIN ROADS. THE INCAS HAD NO WHEELED VEHICLES.

THE FORM DEVELOPED AS A SERIES OF IRREGULAR GEOMETRIC SHAPES, COMPLEMENTING THE IRREGULARITY OF NATURE. THE LANDSCAPE WAS A SERIES OF UNIQUELY SHAPED HILLS FORMING VALLEYS AND RAVINES. THUS THE FORMS OF THE CITY REPEATED THIS THEME. BUT IN HIGHLY SOPHISTICATED GEOMETRIC SHAPES.

THE MAYA

MAYAN TOWN-PLANNING WITH AN ORIGIN OF ABOUT 1000 B.C. IS CAPABLE NOT ONLY OF TEACHING BY ITS SENSE OF SPACE, BUT MORE BY THE ASSOCIATION IT WAS ABLE TO CREATE BETWEEN THE WORKS OF MAN AND NATURE.

THERE EXISTS A PARADOX, BUT AN UNDERSTANDABLE ONE, BETWEEN THE CLEAN-OUT LINES OF THIS VAST, POWERFUL URBAN FORM AND THE TOTAL HOSTILITY OF ITS SURROUNDINGS OF THE FOREST AND UNDERGROWTH TANGLE—A DISCIPLINE OF WILL IMPOSED BY MAN ON NATURE.
MAYAN TEMPLE
THE MAYAN WERE CALM AND DISCIPLINED, SELDOM INDULGING
IN WAR, BUT WERE INVOLVED WITH A CONSTANT STRUGGLE WITH NATURE,
WHERE SURVIVAL WAS CEASELESSLY THREATENED BY THE DEVASTATING
VEGETATION.

TRANSPOSITION OF THE MONUMENTAL PLATFORMED TEMPLES AND
PALACES INTO STONE WAS ONLY REALIZED IN SUCCESSIVE STAGES
BEGINNING WITH EARTH FORMS THEMSELVES AS PLATFORMS FOR DWELLING
HUTS. CONSERVATISM WAS AT WORK; FOR THE PYRAMIDAL FORM
UNDoubtedly STEMMED FROM THE EARLY USE OF EARTH PILED UP
IN ACCORDANCE WITH ITS NATURAL TENDENCY TO FORM A SLOPE. THE
USE OF THIS FORM CONTINUED EVEN WHEN THE BUILDERS LATER ADOPTED
MORE RESISTANT AND SOLID MATERIAL WHICH WOULD HAVE MADE
POSSIBLE THE CONSTRUCTION OF VERTICAL PLATFORMS. THESE PLATFORMS,
ORIGINALLY STRICTLY UTILITARIAN, BECAME THE ESSENTIAL DOMINATING
ARCHITECTURAL FEATURE OFTEN AS MUCH AS 130' IN HEIGHT.
THEY DID NOT RAISE THE BUILDINGS TO CUT THEM OFF FROM THE
LANDSCAPE; THEY FORMED THE TRANSITION WHEREBY THE EYE PASSED
UNCONSCIOUSLY FROM THE NATURAL LANDSCAPE TO THE BUILT UP SURFACES,
WITH SUCCESSIVE LEVELS RELATING THE ARTIFICIAL WORLD OF ARCHITECTURE
TO THE NATURAL WORLD OF ITS SETTING. THERE IS NO BREAK OR
CLEAVAGE RESEMBLING THE PERPENDICULAR CLIFF OF THE ACROPOLIS,
BUT A SERIES OF STEP RAMPS, USELESS FOR DEFENSIVE PURPOSES.

75
Yet creating a link between the different levels,

the absence of any form of vehicle or beast of burden

made streets unnecessary. Thus their urban form was a

rejection of the street system, but a provision of spaces for

the passage of processions and movement.

Hopi pueblo, Slupolovi, Arizona; Teoztlán, Mexico

Although not nearly as spectacular as the Inca, Mayan,

or cliff dwellers' urban forms, those of the Hopi and Aztec

express a sober unpretentious use of existing land topography.

The Hopi Indian village of Slupolovi was the organization

of a clan or group of clans who built their village for protection

from enemies. An agrarian people, their society was communal

in political organization. Perched atop the mesas of northern

Arizona, the people sought their scant water supply at lower

levels where they carefully tilled small plots of level and.

Teoztlán, a village in the province of Morelos, Mexico

also shows a native genius in community building. Surrounded

by rugged mountainous country side whose cliffs hange over the

village it sits on the edge of other cliffs. Sited on a slope, the

76
NORTH SECTION OF THE CITY RISES TO SEVERAL HUNDRED FEET ABOVE THAT
OF THE SOUTH. IN ORDER TO AVOID EROSION, THE AZTEC PEOPLE ADOPTED
AN OVER ALL SYSTEM OF INCLINED RAMPS AND PLATFORMS. THE
RAMPED NORTH-SOUTH LANES ARE COBBLESTONE-PAVED WHILE THE
EAST-WEST LANES REMAIN AS ROUGH FOOTPATHS. THUS THE ENTIRE
CITY BECOMES A SEQUENCE OF ENERGY AND REST, WITH A NEW VIEW
OPENING UP WITH EACH RAMP TRAVELED.
THE FIRST SETTLERS OF THE NEW WORLD WERE SPANISH, FRENCH, ENGLISH, DUTCH, AND SWEDISH. ALTHOUGH EUROPEAN INFLUENCES CONTINUED, WITH THE PASSING OF TIME THEIR POWER LESSENED, AND NEW MODES OF LIFE MORE APPROPRIATE TO THE CHANGED CIRCUMSTANCES OF THE SETTLERS EMERGED.

ASIDE FROM THE LEGACY OF ANCIENT GREECE AND ROME, HALF A DOZEN FAIRLY DISTINCT ASPECTS OF EUROPEAN TOWN PLANNING STAND OUT AS ELEMENTS OF THE EUROPEAN PLANNING TRADITION. THERE WERE A WHOLE SERIES OF ARCHITECTURAL TREATISES DEALING AT LEAST IN PART WITH THE PRINCIPLES OF PLANNING URBAN RECONSTRUCTION, TOWN EXTENSIONS, AND THE LAYOUT OF NEW CITIES. OF THESE THE WORKS OF ALBERTI AND PALLADIO EXERTED GREATEST INFLUENCE ON THEIR CONTEMPORARIES AND REMAINED THE BEST KNOWN. SIMILAR IN MANY RESPECTS, BUT FORMING A GROUP SOMEWHAT APART, WERE THE VARIOUS IDEAL CITY PROPOSALS PUT FORWARD BY UTOPIAN PHILOSOPHERS, ECONOMIC REFORMERS, AND MILITARY ENGINEERS. IT WAS THESE THAT GAVE A NEW BUT SUPERFICIAL IMPETUS OF THE URBAN FORM AND ITS RELATION TO THE TOPOGRAPHY—MORE COMMONLY GROUPED WITH LANDSCAPE UNDER THE TERM NATURE.

RENAISSANCE CITY PLANNING DID NOT LACK FOR THEORETICIANS. MOST OF THESE WORKS CONTAINED SOME REFERENCE TO THE IDEAL LAYOUT OF CITIES, AND MANY OF THEM EMPHASIZED THIS ASPECT EQUAL TO THE ARCHITECTURE OF BUILDINGS THEMSELVES. YET MOST WERE CONCERNED WITH UTILITARIAN SITE CONDITIONS, NOT AS AN EXPRESSION OF ONE URBAN FORM: BUT THESE WRITERS MAY WELL HAVE STIMULATED FURTHER THINKING ABOUT THE FUNCTION OF CITIES AND HOW THEY COULD BE PLANNED BY HOLDING OUT THE POSSIBILITY OF NEW WAYS OF ORDERING SOCIETY.

SPANISH

TO GREATER DEGREE THAN ANY OTHER COLONIZING POWER IN THE NEW WORLD, SPAIN FOLLOWED A SYSTEM OF LAND SETTLEMENT AND TOWN PLANNING FORMALIZED IN WRITTEN RULES AND REGULATIONS.
IN 1573 THE LAWS OF THE INDIES ESTABLISHED UNIFORM STANDARDS AND PROCEDURES FOR PLANNING TOWNS AND THEIR SURROUNDING LANDS AS WELL. LITERALLY HUNDRED OF COMMUNITIES IN THE WESTERN HEMISPHERE WERE PLANNED IN CONFORMITY TO THESE LAWS—A PHENOMENON UNIQUE IN MODERN HISTORY.

THEY BEGIN WITH THE SELECTION OF A SITE. AN ELEVATION SURROUNDED BY GOOD FARMING LAND AND WITH A GOOD WATER SUPPLY AND AVAILABLE FUEL AND TIMBER WAS FAVORED. THE PLAN WAS TO BE MADE IN VIEW OF THE PARTICULAR SITE "SO THAT EVEN IF THE TOWN GROWS IT CAN ALWAYS SPREAD IN A SYMMETRICAL MANNER."16 IMPORTANT BUILDINGS WERE GIVEN PRECISE GUIDES AS TO LOCATION IN THE REGULATIONS. THE MAIN CHURCH OF A COASTAL CITY WAS TO FACE ON THE PLAZA AND SET NEAR THE HARBOR, SO CONSTRUCTED THAT IT MIGHT BE USED AS A DEFENSIVE FORTIFICATION IN THE EVENT OF ATTACK. IN INLAND TOWNS, HOWEVER, THE CHURCH WAS TO BE AT A DISTANCE FROM THE PLAZA SEPARATE FROM OTHER BUILDINGS AND IF AT ALL POSSIBLE ON AN ELEVATED TOPOGRAPHICAL FEATURE. ALL OTHER STRUCTURES WERE TO BE UNIFORM, "FOR THE SAKE OF THE BEAUTY OF THE TOWN."17

THE SIMILARITY OF THESE REGULATIONS IN THE LAWS OF THE INDIES TO THOSE WHICH VITRUVIUS PUT FORTH IN HIS TEN BOOKS ON ARCHITECTURE. 80
WRITTEN ABOUT 30 B. C. LEAVES LITTLE DOUBT THAT THE SPANISH
PLANNERS AND COLONIAL ADMINISTRATIONS DREW HEAVILY ON
VITRUVIUS IN FORMULATING THEIR OWN REGULATIONS FOR TOWN
DEVELOPMENT.

THE MISSION, THE PRESIDIO, AND PUEBLO ARE CHARACTERISTIC
URBAN FORMS OF THE SPANISH. IT WAS FROM THE PRESIDIO TYPE
THAT SAN FRANCISCO EMERGED IN 1776. IT CONSISTED OF A QUADRANGLE
200 METERS ON A SIDE, FORMING A FORTIFICATION TO REPULSE INDIAN
RAIDS. NOT FAR FROM THE PRESIDIOS, "AT A POINT SELECTED TO
CONFORM WITH THE LOCAL TOPOGRAPHY," STOOD THE OUTPOST BATTERIES.

FRENCH

THE AREAS OF SETTLEMENT OF THE SPANISH IN THE WEST AND
SOUTHWEST WERE FOR THE MOST PART LEVEL TOPOGRAPHY. THE
FRENCH IN THE NORTHEAST AND MISSISSIPPI RIVER VALLEY ARRIVING
A CENTURY AFTER THOSE OF THE SPANISH EXHIBITED A GREATER VARIETY IN
THEIR URBAN FORMS, FIRST BECAUSE OF THE NATURE OF THE LAND
FORMS IN LOCATION OF TOWNS, BUT ALSO DUE TO THE FACT THAT THERE
WAS NO GALIC EQUIVALENT TO THE LAWS IN THE INDIES. FRENCH
COMMUNITES CAME INTO BEING AS ADJUNCTS TO A COMMERCIAL
ENTERPRISE, NOT, AS IN THE CASE OF THE SPANISH COLONIAL TOWNS,

81
UNDER THE CAREFUL SUPERVISION OF THE MONARCH.

EACH SETTLEMENT WAS PLANNED ACCORDING TO THE CIRCUMSTANCES PREVAILING AT THE TIME AND THE SKILL AND KNOWLEDGE OF ITS FOUNDER.

BUT THE COMPACT, ENCLOSED QUADRANGULAR FORM WAS UNDOUBTEDLY SELECTED AS A MORE PRACTICAL PLAN FOR A SITE WITHOUT NATURAL TOPOGRAPHIC DEFENSES AND AS ONE BETTER ADAPTED TO THE SEVERE WINTER CLIMATE.

CHAMPLAIN REACHED THE SITE OF QUEBEC, IN 1608 AND STATED:

"I LOOKED FOR A PLACE SUITABLE FOR OUR SETTLEMENT, BUT I COULD NOT FIND ANY MORE SUITABLE OR BETTER SITUATED THAN THE POINT OF QUEBEC."


THE UPPER TOWN ON THE HEIGHTS OVERLOOKING THE RIVER WAS MUCH LESS RESTRICTED BY TOPOGRAPHY AND ITS GROWTH WAS RELATIVELY MORE RAPID THAN THE LOWER SETTLEMENT. NO OVERALL PLAN FOR THE DEVELOPMENT WAS EVER ESTABLISHED, BUT AN EARLY
PLAN SHOWS RADIAL STREETS CONVERGING AT THE ONLY POINT THAT A
ROADWAY WAS ABLE TO LINK THE UPPER AND LOWER TOWNS.

ON THE HIGH GROUND THE CATHEDRAL, PALACE, HOSPITAL,
BISHOP'S HOUSE, SEMINARY AND MAJOR FORTICATIONS WERE ESTABLISHED
AS THE LOWER SHELF ABSORBED MORE AND MORE OF THE SERVICE AND
DOCK FACILITIES. THUS THE LARGER TOWERED BUILDINGS EXTENDED
THE UPPER SKYLINE WHILE LOW STRUCTURES PREDOMINATED BELOW.

A SOMewhat DIFFERENT, THOUGH IN MANY WAYS SIMILAR
TOPOGRAPHY, LED TO THE EARLY FORM OF QUEBEC'S RIVAL, MONTREAL.
IT IS OBVIOUS THAT THE GENERAL FORM OF THIS CITY----A NARROW,
LINEAR PATTERN---WAS STONGLY INFLUENCED BY TOPOGRAPHY. AS
AT THE LOWER TOWN OF QUEBEC, THE NARROW LEVEL AREA ALONG THE
ST. LAWRENCE RIVER RESTRICTED THE COMMUNITY'S GROWTH IN
DEPTH. BUT IT IS EQUALLY OBVIOUS THAT THE PLAN REFLECTS SOME
OVERALL DIRECTION OF TOWN DEVELOPMENT. ONLY MINOR STRUCTURES
WERE LOCATED ON THE UPPER PLATEAU, THE ENTIRE CITY BEING EASILY
ACCOMMODATED IN THE LOWER PLAIN. THUS THE TOWN SKYLINE WAS
GIVEN A BACK DROP BY THE SURROUNDING ESCARPMENTS. TOPOGRAPHIC
RESTRICTIONS OF A SIMILAR NATURE EXISTED IN THE CASE OF MOBILE,
NEW ORLEANS, AND ST. LOUIS.

WITH QUEBEC AND MONTREAL ESTABLISHED, THE FRENCH PUSHED
INTO THE GREAT CENTRAL LAKES AND RIVER VALLEYS. THE WATERFRONT
AND A MILITARY INSTALLATION CONTROLLING WATER TRANSPORT WAS THE IMPORTANT FEATURE OF MOST OF THESE FRENCH COLONIAL SETTLEMENTS. FORT DUQUESNE AT PITTSBURGH AND FORT ST. LOUIS AT PEORIA, ILLINOIS WERE TWO SIMILAR EXAMPLES. THE EARLY TOWN OF ST. LOUIS BEARS A STRIKING LIKELINESS TO THAT OF MONTREAL.

ENGLISH

THE ENGLISH CONCENTRATED THEIR EFFORTS IN THE ATLANTIC COAST REGIONS OF THE NEW WORLD. THE FOUNDERS OF THE LONDON COMPANY'S JAMESTOWN WERE SPECIFICALLY INSTRUCTED TO LOCATE WELL INLAND ON HIGH GROUND ALONG A NAVIGABLE WATERWAY.

HOWEVER INTERESTING THESE VENTURES IN TOWN DEVELOPMENT MIGHT BE, ONE CAN SCARCELY CONTEND THAT THE SURVIVING PLATS INDICATE ANY GREAT SKILL IN OR ATTENTION TO THE CREATIVE PLANNING OF TOWNS. FURTHERMORE THE MAJOR PORTION OF THE EVIDENCE POINTS TO THE CONCLUSION THAT THEIR PLANNERS SCARCELY CONSIDERED THE THIRD-DIMENSION OF THE CITY FORMS AT THE TIME OF THEIR LAYOUT. CERTAINLY, IN THIS RESPECT, WHETHER DUE TO CONSCIOUS INTENT OR SIMPLY THE HAPPY RESULT OF INDIVIDUAL TASTES FURTHERING THE DESIGN OF THE WHOLE, THE NEW ENGLAND COMMUNITIES OF THE SAME PERIOD EMERGE AS CLEARLY SUPERIOR.
PLYMOUTH BECAME THE FIRST PERMANENT ENGLISH SETTLEMENT IN NEW ENGLAND. CHOOSING A SITE ON A HILL AN ACCOUNT RELATES:

"THURSDAY, THE 20TH OF DECEMBER, SO MANY AS COULD WENT TO WORK ON THE HILL, WHERE WE PROPOSED TO BUILD OUR PLATFORM FOR OUR ORDINANCE AND WHICH DOTH COMMAND ALL THE PLAIN AND BAY AND FROM WHENCE WE MAY SEE FAR INTO THE SEA, AND MIGHT BE EASIER IMPALED, HAVING TWO ROWS OF HOUSES AND A FAIR STREET."\(^{120}\)

ONE PARTICULAR FEATURE OF THE NEW ENGLAND VILLAGE COMMUNITY WAS THE SHARP BREAK BETWEEN VILLAGE AND COUNTRYSIDE, BEST OBSERVED IN THE HILL VILLAGES OF NEW HAMPSHIRE AND VERMONT WHICH TOOK ADVANTAGE OF A TOPOGRAPHIC FEATURE; BUT THE SUBURBAN GROWTH HAS OBLITERATED THIS CRISP DISTINCTION IN THE LARGER NEW ENGLAND COMMUNITIES. IN OTHERS THE SYSTEM OF LAND DIVISION INTO LONG NARROW PLOTS IN COMBINATION WITH NATURAL FEATURES PRODUCED SUCH AN ALMOST LINEAR TOWN AS SALEM, WHOSE MAIN STREET, NOW THE PRESENT ESSEX STREET ALONG A RIDGE, FORMED THE DRAINAGE DIVIDE BETWEEN THE NORTH AND THE SOUTH RIVERS. THE GRIDIRON PATTERN, WHICH WAS IN EVIDENCE ELSEWHERE WAS CONSIDERED ILL-SUITED TO THE STEEP SLOPES.

PLANNED IRREGULARITIES OF A MINOR CONSEQUENCE OCCURRED, BUT ALSO THERE WERE EXISTING TOPOGRAPHIC FEATURES TOO STRONG TO IGNORE AND WERE RECOGNIZED, THE TOWN PATTERN ADJUSTING ACCORDINGLY. THAT THIS RESULTED FROM DELIBERATE ATTEMPTS ON THE PART OF EARLY
PLANNERS TO CREATE A COMMUNITY-WIDE AESTHETIC EXPERIENCE SEEMS HIGHLY UNLIKELY. BUT THIS IS NOT TO DENY THAT GOOD TASTE AND FORESIGHT IN THE ADVANTAGEOUS SITING OF PARTICULAR BUILDINGS WAS PRACTICED. IPSWICH, MASSACHUSETTS ATOP A LOFTY AND ROCKY ACROPOLIS-LIKE SITE IS BUT ONE EXAMPLE OF SUCH MICRO-PLANNING.


OF THE SMALL LINEAR VILLAGES, PROVIDENCE, RHODE ISLAND DESERVES MENTION. LAID OUT IN 1638 ON A SITE SELECTED BY ROGER WILLIAMS, THE NORTH-SOUTH ROAD FORMED THE SPINE OF THE VILLAGE.

"TOPOGRAPHY DETERMINED THIS PECULIER PLAN AND INFLUENCED THE SHAPE OF THE LONG NARROW HOME LOTS WHICH RANGED FROM 100 TO 135 FEET WIDE, 1600 TO 3000 FEET LONG...TOWNE STREET WAS, OF COURSE, LAID OUT TO FOLLOW THE SHORE LINE. TO THE EAST OF THE STREET ENOUGH LEVEL LAND EXTENDED FOR HOUSES AND OUT-BUILDINGS. THEN THE LAND SLOPED STEEPLY UPWARD TO THE WEST OF THE RIDGE MIDWAY BETWEEN TOWNE STREET (NOW SOUTH MAIN) AND HOPE STREET, THE EASTERN BOUNDARY."21

EVEN SLIGHT VARIATIONS SOMETIMES WERE INFLUENTIAL IN DETERMINING PLAN FORM. OF EARLY BOSTON IT IS SAID:

"MAN, NOT COWS, AS LEGEND WOULD HAVE IT, CREATED THE BOSTON STREET SYSTEM AND BY THE STANDARDS OF THE SEVENTEENTH CENTURY
IT WAS REASONABLY WELL-SUITED TO THE EARLY COMMUNITY. THE
MUDDY SINKS OF THE VIRGIN SITE NEVER WERE RECORDED. THE ODDS
ARE, HOWEVER, THAT THESE MINOR TOPOGRAPHIC VARIATIONS SHAPED
THE EARLY STREET PATTERN THAT HAS PERSISTENTLY REMAINED TO
PLAGUE THE MODERN DRIVER."

THE SKYLINE OF EARLY BOSTON WAS TOPPED BY THE DOME OF THE
STATE CAPITOL ON BEACON HILL. (NOW THE VISUAL FOCUS IS TURNING
TO THE TWENTIETH CENTURY TOWER CONSTRUCTION, INTRODUCING A NEW
SCALE.)

NEW YORK BEGAN AS A COMPACT FORTRESS TOWN, WHICH DURING
ITS FIRST CENTURY OF GROWTH DEVELOPED AS AN ALMOST MEDIEVAL
PATTERN WITH IRREGULAR WINDING STREETS ON THE VARYING TERRAIN.
THEN, DURING THE 18TH CENTURY, EXTENSIONS OF THE CITY BEGAN TO
BE MADE ON A MORE ORDERLY PLAN FINALLY CULMINATING IN 1811 IN
THE FAMOUS GRIDIRON SCHEME STAMPED ON THE ENTIRE ISLAND OF
MANHATTAN.

IN 1785 THE CONTINENTAL CONGRESS, IN THE ATTEMPT TO BALANCE
THE CONFLICTING WISHES OF ALL COMPANIES AND PARTIES INTERESTED
IN THE DISPOSAL OF THE PUBLIC DOMIN, PASSED THE LAND ORDINANCE
OF 1785. BY IT A RECTANGULAR SUPER GRID OF THE 640 ACRE SECTION
WAS IMPOSED ON THE NATURAL LANDSCAPE FROM COAST TO COAST BARRING
SOME SEVERE TOPOGRAPHIC BREAK. THUS WAS REINFORCED THE NATURAL
INCLINATION FOR THE GRID STREET SYSTEM, THE EASIEST WHEN SPEED AND
DESIRE FOR LAND SPECULATION EXISTED. SECTION LINES BECAME
RURAL ROADS AND SERVED AS A BASE FOR TOWN SYSTEMS. THE EXCEPTIONS ARE MORE NOTICEABLE.

NEXT CAME THE QUESTIONS OF A SITE AND DESIGN FOR THE NATIONAL CAPITAL IN 1790. AFTER MUCH DELIBERATION OF LOCATION MAJOR L'ENFANT WAS REQUESTED TO SURVEY THE SITE. L'ENFANT, AFTER RECEIVING FROM JEFFERSON A SUGGESTION OF ARRANGEMENT OF SQUARES BASED ON "BABYLONIAN AND ROMAN PRECEDENTS", SAID THAT THIS PLAN COULD ONLY BE USED "ON A LEVEL PLAIN" AND ADDED, "SUCH REGULAR PLANS, HOWEVER ANSWERABLE THEY MAY BE ON PAPER OR SEDUCING THEY MAY BE ON THE FIRST ASPECT TO THE EYES . . . MUST EVEN WHEN APPLIED UPON GROUND . . . BECOME AT LAST TIRESOME AND INSIPID AND COULD NEVER BE BUT A MEAN CONTINUANCE OF SOME COOL IMAGINATION, WANTING A SENSE OF THE REALLY GRAND AND TRULY BEAUTIFUL ONLY TO BE MET WITH WHERE NATURE CONTRIBUTES WITH ART AND DIVERSIFIES WITH OBJECTS." 23

ALONG WITH HIS SURVEY CAME A CONCEPTION OF HIS BROAD PLAN, EVEN AT THIS STAGE DESIGNATING HIGHER LAND FORMS AS THE FOCAL POINTS THE LARGEST WHICH WAS JENKINS HILL (NOW CAPITAL HILL) AND WHICH L'ENFANT TERMED "PEDESTALS WAITING FOR SUPER STRUCTURES" 24—THE WHOLE BEING A CLEVER FITTING OF A GENERALLY SYMMETRICAL DESIGN TO IRREGULAR TOPOGRAPHY.

THUS THE ROOT WAS ESTABLISHED FOR THE SO-CALLED "CITY BEAUTIFUL MOVEMENT" WHICH WAS TO BECOME THE "REBIRTH" OF CITY PLANNING IN THE EARLY 1900'S.

L'ENFANT TOGETHER WITH NEHEMIAH HUBBARD WAS NEXT COMMISSIONED
TO PREPARE A PLAN FOR THE RUGGED SITE OF PETERSON, NEW JERSEY.

HE REVIEWS SOME OF THE PROBLEMS OF STREET PLANNING DUE TO THE BROKEN TOPOGRAPHY:

"I CONSIDERED IT WAS NOT MATERIAL TO OBSERVE A REGULAR NORTH AND SOUTH, AND EAST AND WEST DIRECTION FOR THE STREETS...I HAVE TAKEN ADVANTAGE OF A RISING GROUND TO RESERVE THE SUMMIT OF IT FOR THE ERECTION OF SOME PUBLIC BUILDING, CARRYING THE STREETS FROM THENCE ACCORDING AS THE ACCIDENTAL OPENING MAY ADMIT, PROLONGING THEM AT A DISTANCE IN MEASURE AS THE TOWN WILL ENLARGE..."25

-NOT UNLIKE HIS WASHINGTON PLAN.

THE PLAN OF MADISON, WISCONSIN FOLLOWED THE TREND TAKING ADVANTAGE OF THE HIGH POINT IN THE STRIP OF LAND BETWEEN THE TWO LAKES OF MENDOTA AND MONONA. DIAGONAL STREETS RADIATED FROM THIS CENTER TO THE LOWER FOUR CORNERS OF THE GRID PATTERN AT THIS HIGHEST ELEVATION WERE TO BE LOCATED THE STATE CAPITOL BUILDING AND OTHER PUBLIC BUILDINGS SO THAT IT WOULD BE EVEN MORE VISIBLE FROM ACROSS THE LAKES.

AT LEAST ONE PLEA FOR CREATIVE SITING AND PLANNING TAKING ADVANTAGE OF "NATURAL FEATURES" WAS EVIDENT. AN UNSIGNED SERIES OF ARTICLES IN THE 1830 AMERICAN JOURNAL OF SCIENCE AND ARTS HAD POINTED OUT THE GREAT OPPORTUNITY THEN AVAILABLE TO THE NATION WHOSE GREATEST POPULATION GROWTH AND URBAN DEVELOPMENT LAY AHEAD:

"WE HAVE YET TO CHOOSE SITES OF WHAT ARE TO BE LARGE TOWNS AND
PLAN

TOPOGRAPHY

SAN FRANCISCO, CALIFORNIA
CITIES, IN A GENERAL OR TWO; WE HAVE TO PLAN THEM, WITH FULL
CHOICE AS TO CONVENIENCE OR BEAUTY IN THESE THINGS...

LET NO ONE URGE THAT WE ARE NOT PREPARED FOR THESE THINGS;
THAT THEY REQUIRE WEALTH AND LEISURE, WHICH WE HAVE NOT FOR
THEM; AND THAT BUSINESS, NOT TASTE, MUST ENGROSS THE ATTENTION
OF A YOUNG NATION. WE ARE PREPARED FOR THEM. IT IS AS EASY
IN PLANNING TOWN TO CONSULT GOOD TASTE AND BEAUTY AS NOT TO DO
IT, AND UNLESS THIS IS DONE NOW, THE ODDS ARE GREATLY AGAINST
ITS EVER BEING DONE. 126

HIS WORDS MUST HAVE BEEN OBSCURED BY THE EXCESSES OF
THE LAND BOOM IN THE 1830'S AND THE QUESTIONABLE "GRIDIRON-FOR
EVERYTHING" PLANNING CONTINUED THROUGHOUT THE CENTURY. NO
OTHER PLAN WAS SO EASY TO SURVEY, AND NO OTHER SYSTEM OF
PLANNING YIELDED SO MANY UNIFORMS LOTS, EASY TO DESCRIBE IN
DEEDS OR TO SELL FROM THE AUCTIONEER'S BLOCK. EVERYWHERE THERE
WAS MONEY IN THE LAND IF IT COULD BE BOUGHT, SUBDIVIDED, AND
SOLD, EVEN IN THE HILLS, IF PROMOTED BY A SKILLFUL OPERATOR.

WHAT MORE NATURAL DEVELOPMENT THAN THE USE OF THE GRID
IN LAYING OUT CITIES OF THE CALIFORNIA GOLDRUSH, ITSELF A MAD
SPECULATIVE SCRAMBLE. SAN FRANCISCO FELT THE FULL IMPACT OF
THE BOOM. LITERALLY ALMOST OVERNIGHT THE GRID SPREAD OVER THE
STEEP HILLS THAT FORMED ONE OF THE WORLD'S MOST SPECTACULAR SITES
FOR A CITY.

THOUGH THERE SHOULD HAVE BEEN SOME DEVIATIONS FROM IT
THERE ARE ACTUALLY VERY FEW. IT SHOULD BE DULL AND MONOTONOUS
90
BLOCK DWELLING ESTATE
SWEDEN
SITE CONDITIONS IGNORED

PALOS VERDE ESTATES
"CITY BEAUTIFUL"
BUT WITH THE MAGNIFICENT HILLS AND SPECTACULAR VIEW OF THE OCEAN AND BAY, IT IS GREAT IN SPITE OF THE STREET SYSTEM, NOT BECAUSE OF IT.

IT REMAINED FOR THIRTY-FOUR-YEAR-OLD FREDERICK LAW OLМSTED IN 1856 TO RE-AWAKEN A NEW INTEREST IN PLANNING AROUND TOPOGRAPHIC FEATURES, FIRST WITH CENTRAL PARK, INTRODUCING A HUMANIZING ELEMENT INTO AN INHUMAN METROPOLIS AND STARTING A NATIONWIDE CITY PARK MOVEMENT. THE NEW POPULARITY OF THE PICTURESQUE PARK LED TO THE USE OF THESE DESIGN ELEMENTS IN THE EXPANDING SUBURBS AS WELL. POSSIBLY THE EARLIEST AND ONE OF THE MOST SKILLFULLY HANDLED WAS THAT OF LLEWELLYN PARK AT ORANGE, NEW JERSEY. A DESCRIPTION STATES:

"THAT PORTION OF THE GROUNDS SELECTED FOR THE PARK PROPER IS CENTRALLY SITUATED...AND IN FORM IT IS IRREGULAR FOLLOWING THE NATURAL INDICATIONS OF THE SURFACE..."27

THE DAVID HOTCHKISS PLAN FOR LAKE FORREST, ILLINOIS IN 1857 WAS ONE OF THE FIRST EXAMPLES OF THIS PLANNING ON A CITY WIDE SCALE, THE WINDING STREETS CONFORMING TO THE TOPOGRAPHY.

FOLLOWING IN 1866 WAS THE OLМSTED PLAN FOR THE UNIVERSITY OF CALIFORNIA, BERKELEY, OVERLOOKING SAN FRANCISCO BAY ON A SLOPING SITE. BUT WHEN HE PLANNED RIVERSIDE, ILLINOIS, AGAIN OF A NATURALISTIC DESIGN HE "USED BOTH LOGICAL AND ARTISTIC ARGUMENTS TO JUSTIFY...EVEN WHERE...TOPOGRAPHY DID NOT DEMAND IT."28
ROLAND PARK IN BALTIMORE DATES FROM 1891 WHEN THE FIRST UNIT OF WHAT GREW TO BE A MUCH LARGER DEVELOPMENT WAS PLANNED BY OLМSTED. A SERIES OF RIDGES AND VALLEY ALONG ONE END OF THE TRACT PRESENTED A MAJOR PROBLEM FOR THE DESIGNER. HE USED A SERIES OF CUL-DE-SACS TO PENETRATE THIS AREA IN A BRILLIANT DEMONSTRATION OF HIS SKILL IN MASTERING ALMOST ANY KIND OF TOPOGRAPHY.

IN MOST CASES THE ROMANTIC PLAN WAS THAT FOR THE LIMITED WELL-TO-DO; THE GRIDIRON REMAINED DOMINANT. MOST OF THE MODERN CURVILINEAR PLANS ARE BUT FEEBLE REMINDERS OF THE BETTER DESIGN OF THE LAST CENTURY.

SPECULATION AND TOWN-BUILDING OF THE CONTINUING GRID WAS ONLY INCREASED WITH THE INTRODUCTION OF THE RAILROAD AND ITS DEVELOPMENT TOWARD THE WEST COAST. EXCEPT FOR THE SPEED WITH WHICH CITIES WERE LAID OUT AND DEVELOPED, THE ERA OF RAILROAD EXPANSION WAS NOT A NOTABLE PERIOD IN AMERICAN CITY PLANNING. IN ALMOST EVERY CASE, THE PHYSICAL LAYOUT OF TOWNS WAS SUBSERVIENT TO THE RAILROAD LINE AND ITS REQUIREMENTS.

HOWEVER, A SOMEWHAT EPIC QUALITY IN TOWN PLANNING WAS PROPOSED, IT CONCERNED THE TOWN OF TACOMA, WASHINGTON, AT THE TIME A TINY SETTLEMENT ON THE ARM OF PUGET SOUND. THE SITE WAS SELECTED AS THE TERMINUS
POINT OF THE NORTHERN PACIFIC RAILWAYS LINE, AND AGAIN FREDERICK LAW OLMSTED WAS ENGAGED TO PREPARE A PLAN. WHETHER OLMSTED ACTUALLY VISITED THE SITE OR WORKED FROM ONLY TOPOGRAPHIC MAPS IS NOT KNOWN. BUT HIS DEMONSTRATION OF EFFORT TO ADOPT A STREET PATTERN TO THE DIFFICULT SITE WAS TRULY A PLAN FROM ANOTHER MOLD. IN FACT, A CONTEMPORARY DECLARED IT...

"THE MOST FANTASTIC PLAT OF A TOWN THAT WAS EVER SEEN. THERE WASN'T A STRAIGHT LINE, A RIGHT ANGLE, OR A CORNER LOT. THE BLOCKS WERE SHAPED LIKE MELONS, Pears, AND SWEET POTATOES. ONE BLOCK, SHAPED LIKE A BANANA, WAS 3000 FEET IN LENGTH AND HAD 250 LOTS. IT WAS A PRETTY FAIR PARK PLAN BUT CONDEMned ITSELF FOR A TOWN". 29

OLMSTED'S PLAN WAS EVENTUALLY REJECTED TO BE REPLACED BY ONE BY ISAAC SMITH, AN ALMOST UNDEVIATING GRIDIRON PATTERN.

EXPERIMENTS AT SMALL-SCALE TOWN PLANNING HAD BEEN MADE.

CITIES BUILT FOR IDEALISTIC REASONS—RELIGIOUS COMMUNITIES, EARLY SOCIALIST SOCIETIES, UTOPIAN EXPERIMENTS—MIGHT BE EXPECTED TO SHOW SOME EVIDENCE OF THEIR THEORIES WHICH PROMPTED THEIR CREATION IN THEIR FORMS, BUT SELDOME WAS IT THE CASE.

THE INDUSTRIALIZATION OF AMERICA CONTRIBUTED MORE THAN ANY OTHER SINGLE FACTOR TO THE DEVELOPMENT AND GROWTH OF THE NATION'S CITIES. A FEW COMBINED SOUND PLANNING WITH IMAGINATIVE DEVELOPMENT, BUT RARELY WAS AND EXPRESSION OF THE PHYSICAL TERRAIN EVIDENT.

ONE ATTEMPT AT THE PLANNING OF AN INDUSTRIAL VILLAGE WAS THAT
OF JOHN NOLEN AT KISTLER, PENNSYLVANIA IN 1916:

"KISTLER, FAR FROM THE BEST OF HIS DESIGNS, WAS UNDERTAKEN FOR THE MOUNT UNION REFRactories COMPANY. THE SITE WAS... TRIANGULAR IN SHAPE AND BOUNDED BY A RIVER ON ONE SIDE AND THE RAILROAD ON THE OTHER. THE SHAPE ALONE WOULD HAVE PROVIDED DIFFICULTY BUT IN ADDITION A STEEP BANK DIVIDED THE LAND INTO TWO LEVELS. NOLEN'S PLAN...UTILIZED THE STEEP SLOPE AS A NATURAL PARK. ADJACENT TO THIS HE LAID OUT AN OVAL GREEN ON WHICH HE LOCATED THE COMMUNITY HALL. FACING THE GREEN AND A MAJOR STREET AT THE TOP OF THE RAILROAD WERE SHOPS. A SMALLER PARK SEPARATED THE SHOPPING DISTRICT FROM THE RAILROAD STATION." 


RECENTLY SEVERAL PROJECTS CONCERNING TOPOGRAPHY AND IT POSSIBLE EFFECTS ON URBAN FORM HAVE BEEN PROPOSED IN THE EASTERN UNITED STATES.

94
THE FIRST OF THESE IS THE "VALLEYS" PLAN FOR THE GREEN SPRINGS
AND WORTHINGTON VALLEYS ON THE OUTSKIRTS OF BALTIMORE. THE PLAN
PROPOSES TO PRESERVE A VALLEY AREA WHILE BUILDING HOUSE CLUSTERS
ON THE WOODED SLOPES AND PLATEAUS OF ITS HILLS.

A SECOND IS THE LOS ANGELES CHAPTER AIA STUDY SHOWING
HOW HILLSIDES COULD BE DEVELOPED FOR A VARIETY OF HOUSES TYPES,
IN EFFECT, TREATING THE WHOLE DESIGN OF HILLSIDE AND BUILDINGS
AS A WORK OF ART. THIS THEY PROPOSED AS AN ALTERNATIVE TO THE ALL
TOO FREQUENT AND TOO WANTON BULLDOZER TERRACING, WHICH ATTEMPTS
TO MAKE A HILLSIDE INTO A FLAT AREA WHICH IT CANNOT BE. ANOTHER,
AND MORE SIGNIFICANT, IS THE SLOPE STUDY OF PITTSBURGH UNDERTAKEN
BY PROFESSOR PATRICK HORSBRUGH OF THE UNIVERSITY OF TEXAS; IT MAY
WELL BE A LANDMARK IN THE APPROACH OF EXAMINING A CITY'S RELATION¬
SHIP TO THE TOPOGRAPHIC FEATURES. (29 PER CENT OF PITTSBURGH HAS SLOPES
OF OVER 15 PER CENT, AND MOST OVER 25 PER CENT) HORSBRUGH IS PRECEDED
ONLY BY OLMS TED'S SIMILAR STUDY, AGAIN OF PITTSBURGH, OF 1910, WHEN
HE DEVELOPED A MASTER PLAN FOR REGULATION OF PITTSBURGH'S SLOPE DEVELOP¬
MENT.

"THE GREAT ERROR WHICH HORSBRUGH POINTED OUT WAS THE LACK OF
RECOGNITION OF THE OUTSTANDING NATURAL BEAUTY OF THE SITE AS
THE DESIGN BASIS OF ITS URBAN FORMS. HE POINTED OUT HOW BOTH
THE CHARACTER OF THE TERRAIN AND THE MANY CULTURES OF PITTSBURGH'S
CITIZENS, IN INDUSTRIES AND ITS UNIQUE POSITION SHOULD BE USED
AS THE REAL BASIS FOR RE-FORMING THE CITY. HORSBRUGH'S REPORT
IS A SENSITIVE APPRAISAL OF DELICATE TOPOGRAPHY WHICH HAS BEEN
ABUSED. IT IS DONE, NOT WITH A STATISTICIAN'S MEASURE, BUT
WITH A HEART AND MIND POISED FOR SEEKING A MORE HARMONIOUS
RELATION BETWEEN NATURE AND HUMAN SETTLEMENT ON THIS SITE. AND HE IMPLIES THAT EVERY CITY HAS ITS OWN PERSONALITY WHICH ITS FORM SHOULD EXPRESS—THE BASIS FOR DEVELOPING THE CITY AS ITS BEST SELF. "31

OF COURSE, NOT ALL CITIES HAVE AS STRIKING TOPOGRAPHY AS PITTSBURGH—SAN FRANCISCO, TROY, ATLANTA, SEATTLE, RIO DE JANEIRO, AND SOME PARTS OF LOS ANGELES AND PORTLAND ARE A FEW—BUT ALL OF THESE COULD BENEFIT FROM THE KIND OF STUDY WHICH PITTSBURGH RECEIVED. GREENBELT, MARYLAND RECEIVED ITS SCHEME FROM A SEMICIRCULAR RIDGE.

OBVIOUSLY LOCAL TOPOGRAPHICAL CONDITIONS HAVE VARYING MARKED EFFECTS ON CITY FORMS. IN ALMOST EVERY CASE THE CITIES HAVE OUTGROWN THESE PHYSICAL LIMITATIONS AND IN SOME MANNER EXTENDED EITHER INTO THE LIMITING TERRAIN OR BY-PASSED IT, THOUGH A FEW EVEN TODAY RETAIN THIS NATURAL BOUNDARY. FOR EXAMPLE, DULUTH, MINNESOTA LOCATED ON A NARROW LACUSTRINE PLAIN BORDERING LAKE SUPERIOR AND BACKED BY STEEPLY RISING UPLAND, PARALLELS THE LAKE AND ST. LOUIS RIVER FOR APPROXIMATELY TWENTY MILES AND WITH A WIDTH EXCEEDING TWO MILES IN ONLY A FEW PLACES.

ALONG RIVERS AND IN MOUNTAIN VALLEYS THERE ARE NUMEROUS OTHER URBAN CENTERS DETERMINED BY SIMILARLY ATTENUATED SHAPES, AS WELL AS OTHERS WHICH THOUGH NOT ATTENUATED HAVE BEEN AFFECTED IN FORM BY THE SHAPE OF THE AREA AVAILABLE FOR USE.
SUCH IS CINCINNATI, BUILT ON 3 LEVELS: THAT OF THE PRESENT-DAY ALLUVIAL PLAINS OF MILLCREEK AND THE OHIO RIVER AT THE JUNCTION OF WHICH THE CITY IS LOCATED; THAT OF THE TERRACES OF THESE SAME STREAMS; AND THAT OF THE UPLAND ALL SEPARATED BY GRADES WHICH HAVE AFFECTED EXPANSION.

THE LIMITED EXTENT OF LEVELLAND NEAR THE RIVER, INDEED, HAS INFLUENCED DEVELOPMENT OF NEWPORT AND COVINGTON ACROSS THE OHIO, ON THE FLAT LAND BORDERING THE LOWER COURSE OF THE LICKING RIVER. IN ONE SENSE, IN FACT, THESE CITIES MAYBE REGARDED AS EXPANSION OF CINCINNATI ON THE KENTUCKY SIDE OF THE OHIO. THE LOCATION OF ST. PAUL ON THE MISSISSIPPI IS SIMILAR TO THAT OF CINCINNATI, FOR IT ALSO IS BUILT AT THE SAME THREE LEVELS, THE SAME IS TRUE OF MANY RIVER CITIES OF THE UPPER MISSISSIPPI THOUGH TWO LEVELS ARE MORE COMMON. THE SITE OF SEATTLE ON THE PACIFIC COAST IS LIKewise CIRCUMSCRIBED, FOR THE AMOUNT OF LEVEL LAND ALONG THE SOUND IS SMALL; STEEP GRADES SEPARATE BUSINESS AND THE BETTER RESIDENTIAL SECTIONS.

THE SAME FACTORS OF AMOUNT OF LEVEL LAND AVAILABLE AND ITS SHAPE, ALSO EFFECTS CITY PLANS IN DETAIL. THUS BUSINESS AND INDUSTRY ARE NORMALLY CONFINED TO THE FLATTER AREAS; RESIDENCES PRE-EMPT THOSE WHICH ARE HILLIER. THIS ALSO FOUND IN SAN FRANCISCO AND CINCINNATI.

THAT AMERICA HAS NOT YET FOUND A FORM OF GROUP DEVELOPMENT WHICH WILL MAKE A CITY IN A LOCATION OF UNIQUE TOPOGRAPHICAL CHARACTER IS CERTAIN; SUBURBAN FRINGE DEVELOPMENT IS STILL PLANLESS, YET THE MACHINERY TO CREATE LARGE-SCALE PLANNED COMMUNITIES IS THERE. IT HAS OCCASIONALLY BEEN ATTEMPTED. THE AMERICAN PUBLIC—EASY, FRIENDLY, AND HIGHLY DEMOCRATIC—HAS NEVER DEVELOPED A SENSITIVITY TO SURROUNDINGS IN THE VISUAL SENSE.
OTHER PROPOSALS

FRANK LLOYD WRIGHT

BRUNO TAUT
THE EARTH TERRAIN, THERE IS ALSO FRANK LLOYD WRIGHT'S MILE-HIGH SKYSCRAPER, A BUILDING OFTEN RIDICULED, BUT AN ARCHITECTURAL REALIZATION OF THE DREAMS OF HEIGHT ON THE OPEN PLAIN AND REMOVED FROM THE MOUNTAINS.

MODERN TECHNOLOGY, IF IT HAS NOT ALREADY, IS RAPIDLY BECOMING CAPABLE OF BUILDING MOST OF THESE DREAMS. EARTH-SHAPING TECHNIQUES COULD BUILD THE ALPINE CITIES OF TAUT. WHAT IS LACKING IS THE DESIRE TO TURN THE CREATIVE TECHNOLOGICAL ABILITY TOWARDS THE END OF A MORE IMAGINATIVE YET BASIC ARCHITECTURE AND ALSO TO REASONABLY EXPLOIT THE POSSIBILITIES LYING IN TRADITIONAL ARCHITECTURAL VALUES AND WHICH OFFER A FRESH APPRAISAL OF HOW MAN'S STRUCTURES RELATE TO NATURE'S PROVISIONS.

LAND FORMS (OR ARTIFICIAL ONES) IN THE URBAN ENVIRONMENT IS A PARTICULAR ARCHITECTURAL AND TOPOGRAPHICAL ELEMENT HAVING WIDE RAMIFICATIONS AS YET LARGELY UNTAPPED; IT REQUIRES AN EXTRA-ORDINARY DESIGN CONSIDERATION, YET FORCES STRONG DESIGN ORGANIZATION.

RECENTLY A FRENCH BOOK ENTITLED QU'VIRONS-NOUS DEMAIN? (WHERE WILL WE LIVE TOMORROW?) WAS PUBLISHED WITH MANY ILLUSTRATIONS OF VISIONARY URBAN DESIGN. THESE TREATED THE URBAN FORMS AS A TOTALITY, A WHOLE, EITHER COMPLEMENTARY WITH NATURE OR OFTEN CREATING ITS OWN FORM. SOME JAPANESE ARCHITECTS CALLING THEMSELVES THE "METABOLISM GROUP" HAVE PRODUCED UNDERWATER
CITIES, BIOLOGICAL CITIES, AND EVEN CITIES THAT CHANGE THEIR
OWN FORMS—APPROPRIATE WHERE THE LAND FORM IS NO DETERMINANT.

THESE PRESENTED HERE ARE BUT A FEW OF THE MANY ENVISIONARY
PROPOSALS.
rc is a very clear solution to complete living unit: clear in of the structural concept, absolutely brilliant concept: involved. If you're going to on a mountaintop, this is the to build.

the first time I've seen a which is a building, where the community is a building, great significance because, long haul, this is how we'll the problem of density without tying the ground on which building.

there's a wonderful sensitivity Normally, in a scheme like which organizes and controls thing, there's a kind of brutal- it, a kind of heavy-handedness, that's totally lacking here. There's a wonderful sense of void you need; it really seems to down the side of the mountain at it caps it with a kind of ness and really seems to go the mountain like water--respecting the mountain, very beautiful.

there are precedents for this of concept in the projects of 1919, ideas which have never tapped, never developed.

are precursors in the German anic architects; Mendelsohn's she can be seen behind the iful quality of the drawings. o recalls Wright's Mayan cts, where he would go around ups of mountains, spilling up s, or Corbusier's road-viaduct cture, or his terracing in rs. Only the design is much logical, because it is going a preexisting slope. It really together many, many streams have been present, and makes hing of them.

there are more current preced- in this country, where there isetus toward this type of s; and it is very significant it should appear in Los es, where there is a tremen need and urgency for a on: If man is eventually going e to live in a demanding ment, one that is mechanized efficient, then what happens in immunity must become more ally with nature.
URBAN NUCLEUS—SANTA AYEZ, CALIFORNIA. (SIGNIFICANT BECAUSE IT WILL BE ACTUALLY BUILT.)

PROJECT PROPOSING AN IMAGINATIVE NEW RELATIONSHIP BETWEEN AN URBAN COMPLEX AND NATURAL SURROUNDINGS; IT ENVISIONS THE CITY AS AN ORGANIC STRUCTURE ENCORPORATING SOPHISTICATED URBAN ACTIVITIES WHILE PRESERVING THE TEXTURE OF THE TOPOGRAPHY; IT SUGGESTS A SOLUTION TO HOUSING POPULATION CONCENTRATIONS AND OUR EXPANDING URBAN MASS WITHOUT DESTROYING THE NATURAL SETTING.

...SITE OF 3550 ACRES OF UNDEVELOPED MOUNTAINOUS TERRAIN RISING FROM A VALLEY TO A LARGE BOWL WITH A CENTRAL PROMONTORY JUTTING OUT TOWARD A VIEW (THRU SANTA INEZ CANYON) OF THE PACIFIC OCEAN.

...LOS ANGELOS LAW PERMITTED 7200 DWELLING UNITS WITH AN OVERALL DENSITY OF APPROXIMATELY TWO DWELLING UNITS PER ACRE.

...THE OVERRIDING IDEA WAS TO PRESERVE AS MUCH PARKLAND AS POSSIBLE AND TO DESIGN A LOW CONTOUR—RISE TYPE OF STRUCTURE THAT WOULD REINFORCE THE CHARACTER OF THE LAND RATHER THAN DESTROY IT.

...ENTIRE STRUCTURE DESIGNED SO THAT THE PACE OF LIVING CHANGES FROM TOP TO BOTTOM: IT IS POSSIBLE TO GO UP FOR URBAN ACTIVITY, FAST RYTHMN, SOPHISTICATION AND GO DOWN THROUGH HOUSING TO NATURE, ROCKS, LAKE, WINDING PATHS, AND SOLITUDE. 32
FREI OTTO
VALLEYS ROOFED WITH NETTING
KENZO TANGE
TOKYO BAY PROJECT
CLAUDÉ PARENT: LES TURBINES
HABITATION UNIT
COSTA BRAVA
MARC SAUGAY, ARCHITECT
HABITATION UNIT
MONT BLANC
A.C.A.U., ARCHITECTS

CLAUDE PARENT
"MANHATTAN OUT"
ANALYSIS: RECOGNITION AND APPRAISAL
THE COMMON ANTHILL IS A CURIOUS PARALLEL IN THE INSECT WORLD OF A SENSE OF PLACE, AND IMPORTANT AS A CREATIVE TECHNICAL CHANGE IN THE TOPOGRAPHY OF THE ANT ENVIRONMENT; IN SOME PLACES, AS IN AFRICA, THEY BECOME MONUMENTAL EARTHEN MEGA-STRUCTURES OF THE "INSECT URBAN ENVIRONMENT."

VILLAGES AND TOWNS SMALL ENOUGH TO BE SEEN LYING COMPACTLY
WITHIN A MORE EXTENSIVE LANDSCAPE HAVE WHAT MAY BE TERMED AN
ENDURANCE WHICH LARGER TOWNS COULD SCARCELY ASPIRE TO UNLESS
THEY WERE DIVIDED INTO GROUPINGS OF SEPARATE PARTS; THE FIRST VIEW
IS THE RESULT OF THE OBVIOUS RELATIONSHIP AND CLEAR DEFINITION
BETWEEN THE TOWN AND THIS SURROUNDING COUNTRY. THE EVIDENT
DEPENDENCE OF A TOWN ON THE EARTH (THE TOPOGRAPHY OF THE SITE),
THE WAY SUCH A TOWN LIES CUPPED IN A HOLLOW, SHELTERING UNDER THE
SLOPE OF A HILL OR STRETCHING ALONG THE LINE OF A VALLEY EXPLAINED
MUCH OF ITS CHARACTER AT A GLANCE; AN IMPULSE OF COMMUNICATION
WAS RECEIVED BY THE NEW ARRIVAL AND THE FEELING OF HOMECOMING
REACHED THE NATIVE. TOPOGRAPHY WAS A DESIGN ELEMENT.

EXPERIENCES SUCH AS THESE, ARISING MOST EASILY FROM PLACES
WHICH HAVE GROWN SLOWLY AND NOT TOO LARGE, ADAPTING THEIR GROWTH
TO CIRCUMSTANCES BY DEGREES, FOLLOWED ALL THE INDICATIONS OF THE
SITE INTIMATELY KNOWN BY CONSISTENT CONTACT. BUILDINGS WERE COMPACTLY
GROUPED BECAUSE NO ONE WANTED TO BETOO FAR FROM THOSE FEATURES
WHICH RETAINED THE TOWNSITE; FOOTPATHS TOOK NATURALLY THE EASIEST
LEVELS AND MOST CONVENIENT DIRECTIONS AND BECAME THE BASIS OF
NEW ROADS,

NEW TOWNS AND HOUSING DEVELOPMENTS BUILT WITHOUT ALL THIS
ACCUMULATED EXPERIENCE OF LIVING ON THE SITE AND AT A RATE PRECLUDING
SUCH INFLUENCES FROM MAKING THEMSELVES FELT, OFTEN LACKED
THAT FEELING OF HOMELINESS, INTIMACY, AND COMFORT IN SPITE
OF ALL THE OTHER ADVANTAGES.

ONE MAY ARGUE THAT THE BUILDERS OF STRONGHOLD CASTLES, HILL
TOWNS, AND MONASTERY TOWNS NOW ACCEPTED AS TREASURES OF OUR
LANDSCAPE DID NOT PAUSE TO CONSIDER SKYLINES AND MASSES BUT
WROUGHT BY PURE INSTINCT, AND THAT THEREFORE IT IS OUR ARCHITECTURE
AND OUR INSTINCT WHICH IS NOW AT FAULT. BUT THIS VIEW OVERLOOKS
THE FACT THAT THESE BUILDERS WERE GOVERNED TO A FAR GREATER
EXTENT THAN WE ARE TODAY BY THE LIMITATIONS OF THE TOPOGRAPHY
IN RELATION TO THE FUNCTION OF THE BUILDINGS; NOR WAS FLEXIBILITY
OF LOCATION OFTEN POSSIBLE. IT IS PRECISELY BECAUSE WE NOW HAVE
THE ABILITY TO OVERRIDE THAT NATURAL RELATIONSHIP THROUGH MODERN
ENGINEERING AND BUILDING TECHNIQUE THAT WE MUST LEARN TO DO
CONSCIOUSLY WHAT HAD BEEN DONE UNCONSCIOUSLY OR INEVITABLY.

WHEN MAN'S PRIMITIVE SENSE OF DIRECTION FAILED HIM—AS THE SCALE
AND COMPLEXITY OF HIS TRAVEL GREW—HE LEARNED TO NAVIGATE BY THE STARS
AND THEN TO USE A COMPASS, BOTH METHODS BEING EVOLVED BY HIS INTELLECT
BUT DEPENDING ON THE SAME NATURAL LAWS AS HIS EARLIER INSTINCT.

IN THE NEW PATTERN FOR DISPOSING OF SPACE, AN INCREASE IN
NUMBERS IS ACCOMMODATED BY MULTIPLYING THE EXISTING UNITS AT A
RATE AND SCOPE NEVER KNOWN BEFORE, AND NOT ACCOMPANIED BY AN
EQUALLY EXTENSIVE STUDY OF ITS NEW SCALE. SPECIALIZATION REQUIRED
AND FACILITATED THE CONSTRUCTION OF AN ENTIRELY NEW URBAN PLANT.
SPACE WAS ALLOCATED WITH AN EYE TOWARD ITS SEEMINGLY MOST
PROFITABLE USE. IN THE FRENZY OF CONSTRUCTION, THE CITY WAS
ONLY HALF RECAST AND ITS TIES TO THE PAST HALF OBLITERATED. BUT
TOPOGRAPHY CEASED TO BE EITHER OBSTACLE OR BLESSING IN EXTENDING
THE LIMITLESS GRID. MAN WAS NEVER SO CAPABLE OF MAKING SO
MUCH CHAOS.

WITH THE DEVELOPMENT OF LONG DISTANCE TRADING, NUMERICAL
CALCULATION AND COINAGE, THIS URBAN CIVILIZATION TENDED TO THROW
OFF ITS ORIGINAL SENSE OF LIMITS; THE STANDARDS OF THE MARKET PLACE
BEGAN TO APPLY TO THE ENVIRONMENT ITSELF: THE PROCESS OF BUILDING
OVER THOSE INTERIOR FEATURES AND BUILDING OUT BEYOND THE ORIGINAL
TOPOGRAPHIC FORMS.

UNTIL MODERN TIMES THE GRADUAL EXTENSION OF CITY WALL MARKED
ITS SLOW GROWTH IN SEMI-FEATURELESS LOCATIONS. WHEN, BECAUSE OF
ITS EASILY DEFENSIBLE SITE, THE VILLAGE OFFERED PROTECTION AGAINST
PREDATORS OF ALL KINDS, IT WOULD IN TIMES OF PERIL ATTRACT FAMILIES
FROM MORE EXPOSED AREAS AND SO, WITH A LARGER, MIXED POPULATION,
WOULD TURN INTO A CITY. THUS EVEN THE TEMPLE CITADEL WOULD ADD TO
ITS ORIGINAL POPULATION, AND EVEN AFTER THE DANGER HAD PASSED,
WOULD RETAIN SOME OF THOSE WHO SOUGHT SHELTER AND SO INCREASE
MORE IN NUMBERS, LESS IN SIZE.

CHRISTOPHER TUNNARD IN HIS CITY OF MAN HAS A MUCH MORE
COMPREHENSIVE EXPLANATION FOR CITIES AND THEIR CREATIVE ELEMENTS!

CITIES HAVE BEEN FOUNDED FOR PURPOSES OF DEFENSE, RELIGION,
POLITICS, HYGIENE, CO-OPERATION AND COLONIZATION; OTHERS HAVE
THEIR ORIGINS IN SMUGGLING, SLAVERY, PIRACY, AMUSEMENT OR
CAPRICE. STILL OTHERS HAVE BEEN ESTABLISHED TO ENCOURAGE
DRINKING OR TO STOP IT. SOMETIMES BEGINNINGS ARE TO BE FOUND
IN MIRACLES, MORAL PRECEPTS, AND DREAMS. CITY BUILDERS
MAY HAVE BEEN MOTIVATED BY EXPLOITATION, EMULATION, ESTHETICS,
IMPROVEMENT, MEGLOMONIA, OR THE WISH TO BE ADMIRED; TOWNS
HAVE BEEN PLANNED BY KINGS, DICTATORS; AND EMPRESSES, BANK
CLERKS, AND BOARDS OF DIRECTORS; BY PAINTERS, SCULPTORS, AND
ARCHITECTS; BY DULY ELECTED REPRESENTATIVES OF THE PEOPLE; BY
MERCHANTS, PRINCES OF THE CHURCH AND PILGRIM BANDS, AND
ABOVE ALL BY SPECULATORS AND GAMBLERS. 1

WHATEVER THE REASON FOR THEIR ESTABLISHMENT, THE NATURAL
FEATURES OF THE LANDSCAPE AND THE SUBSEQUENT PLANNING GUIDANCE,
IF IT EXISTED, WAS GIVEN RADICALLY DIFFERENT IMPORTANCE WHEN
ENVISIONED IN THE HANDS OF THESE VARIOUS DETERMINING PARTIES.

SINCE UNRECORDED TIMES THE FORESTS OF UPPER BURMA AND ASSAM
THE PEOPLES THERE HAVE MAINTAINED A SIMPLE NATURE WORSHIP BASED
ON TOPOGRAPHICAL FEATURES; ALTHOUGH THEY HAD A BRANDWIRTSCHAFT—
THEY BURNED AND MOVED ON—THEIR HILLTOPS WERE NOT BURNED OVER.
THE HILLTOPS WERE SACRED; AS PLACES OF WORSHIP, THEY WERE NOT
CUT OVER OR PASTURED EITHER. THUS IN THIS BACK COUNTRY, IN A PLACE
WHERE MAN HAS BEEN THE LONGEST IN A STATE SIMILAR TO WHAT IT MUST

107
HAVE BEEN IN THE STONE AGE, AN ATTITUDE TOWARD THE TOPOGRAPHY IN
NATURE HAS PRESERVED A VERY CONSIDERABLE PROPORTION OF THE LANDSCAPE.
TOPOGRAPHY, FROM THE DAYS OF THE STONE AGE MAN UNTIL THE CHALLENGE
OF MAN'S STRUCTURES IN RECENT TIMES, REMAINED UNTHREATENED AS THE
MAJOR THREE-DIMENSIONAL ELEMENT OF BOTH HIS EVERYDAY NOMADIC LIFE
LAND LATER HIS URBAN ENVIRONMENT. HE DEPENDED ON ITS FEATURES
FOR GUIDING HIS TRAILS, ORIENTING HIM TO HIS HUNTING GROUNDS,
OBSERVING HIS ENEMY AND POTENTIAL PREY, PROTECTING HIM FROM
HIS ENEMIES AND WILD ANIMALS, PROVIDING THE SUBSTANCE OF HIS
DWELLING UNIT ITSELF (CAVE AND CLIFF DWELLERS) AND EVEN SERVING
AS THE BASIS OF HIS RELIGIOUS BELIEFS.

THUS THE IMPORTANCE OF FEATURES OF THE LANDSCAPE WERE GIVEN
RELATIVE IMPORTANCE OUT OF THE URBAN CONTEXT AS WELL.

IT IS AN INTERESTING FACT THAT TOPOGRAPHY RECEIVED, DURING THE
COURSE OF THE NEOLITHIC AND BRONZE AGE CULTURES, A MORE DRAMATIC
SHAPING BY HUMAN HANDS, RELATIVE TO THE SCALE OF THEIR ESTABLISHMENTS,
THAN IT HAS KNOWN AGAIN. ALL THE GREAT EARTHWORKS, MOUNDS, LYNCHETS,
CAMPS AND HILL TERRACES, ESPECIALLY THOSE OF THE CHALK LANDS AND
EASTERN ASIA ARE ON A RELATIVE SCALE THAT IS ALMOST GEOLOGICAL IN
SCOPE. IN COMPARISON TO THE EXTENT WITH WHICH THESE HANDICAPPED
PEOPLES ALTERED THEIR GIVEN LAND FORMS, MODERN MAN SHOULD BE
ATTACKING MOUNTAINS WITH SOME CONFIDENCE. BUT HE HASN'T ASSUMED
THAT RESPONSIBILITY AS YET; HE IS CERTAINLY ANTICIPATING IT.

MAN HAS ALWAYS BEEN TEMPTED BY THE IDEA OF CROWNING
HILLTOPS AND MOUNTAIN PEAKS WITH MONUMENTS. SOME FELT THAT
UNLESS THE WHOLE MOUNTAIN IS THE MONUMENT AND AS SUCH IS DESIGNED
FROM BASE TO TOP, SUCH ARCHITECTURAL FEATS WERE ALWAYS DISCONCERTING.
THEIR SUCCESS WAS TERMED MORE ONE OF PURE CURIOUSITY, HARD LABOR,
AND TECHNIQUE THAN OF ART. BUT NEVERTHELESS SUCH FEATS STIR ENTHUSIASM.
THE REASON IS THAT MAN'S WORK, UNTIL NOW, HOWEVER LARGE, ALWAYS LOOKED
PETHERICALLY INSIGNIFICANT WHEN IT TRIED TO COMPETE WITH NATURE.

TOPOGRAPHY IS A PASSIVE, NOT AN ACTIVE AGENT; IT PERMITS, BUT
IT NO LONGER COMPELS. SOME LOCATIONS ON THE SURFACE OF THE EARTH
HAVE BEEN EXPLOITED AND OTHERS SHUNNED EVEN THOUGH BOTH CONTAINED
THE SAME POTENTIAL. AND THE FACT THAT CERTAIN INDIVIDUALS OR
POPULATION GROUPS LIVE IN AREAS OF THEIR OWN SELECTION DOES NOT
PROVE THAT THE AREAS CHOSEN WERE THE BEST AVAILABLE, NOR THAT THEY
ARE BEING USED TO MAXIMUM ADVANTAGE.

BUT TO THESE EARLIER CULTURES, SHELTER IN ITSELF SEEMS TO HAVE
BEEN A MINOR CONSIDERATION; THEY WERE USED MAINLY AS PLACES OF
REFUGE, NOT LIVING. AND THE SORT OF SPACE CREATION IN WHICH THEY
OFTEN EXCELLED CONSISTED IN THE GENERAL APPEARANCE—THE ENCLOSURE
OF COURTS AND MODELING OF TERRAIN—AND IN GENERAL, MORE CLOSELY
RELATED TO THE LANDSCAPE OR GARDEN ARTS OF THE WESTERN WORLD

THAN TO WHAT MIGHT BE CALLED THE "WILL TO HOLLOW FORM" OF THE

ROMAN PANTHEON OR THE GUGGENHEIM MUSEUM.  

THE HISTORY OF ARCHITECTURE TEACHES US THAT AT ANY MOMENT

THE NEXT STAGES OF DEVELOPMENT ARE UNCERTAIN. IN THE WORDS
OF PYTHAGORAS:

...THINGS VARY, AND ADOPT NEW FORM...CONSIDER HOW THE
GENERATIONS OF MEN HAVE PASSED FROM THE AGE OF GOLD TO
THAT OF IRON, HOW OFTEN THE FORTUNES OF DIFFERENT PLACES HAVE
BEEN REVERSED, I SHOULD BELIEVE THAT NOTHING LASTS LONG
UNDER THE SAME FORM.

NOW IT IS MAN'S STRUCTURES WHICH ATTEMPT TO GIVE FORM TO
THE URBAN ENVIRONMENT. THEIR ROLE IS BECOMING MORE AND MORE
DOMINANT AS MAN PUTS TOGETHER LARGER AND STRONGER MATERIALS
INTO MORE VOLUMINOUS SHAPES. THE ONLY MEANS HE HAS TO RETAIN
A SEMBLANCE OF THE NATURAL WORLD IN THE EVER INCREASING SCALE
AND ARTIFICIALITY OF THE URBAN FORM UNRELATED TO IT IS TO VISUALIZE
A NEW URBAN FORM AS A RECOGNITION, APPRAISAL, AND EXPRESSION
OR REINFORCEMENT OF THE CHARACTERISTIC TOPOGRAPHICAL FEATURES IN
HIS URBAN ENVIRONMENT—AN APPROACH TO CITY BUILDING AS AN ART OF
PLACE MORE THAN A TECHNIQUE. OF COURSE, NOT ALL AREAS CONTAIN
NATURAL FEATURES; THESE Require A SIMILAR STUDY. BUT FEW ARE SO
FEATURELESS; THEIR VALUE TO THE URBAN FORM INCREASES AS THEY
BECOME LESS PLENTIFUL.

110
A water element exists in practically all of what would be called great cities, but those that incorporate topographical features as well have a distinct added advantage: Portofino, Naples, San Francisco, Zurich, Rio de Janeiro. They suggest to the perceptive designer a potential, stemming from their natural form, to give a sense of place, a spirit, an ethos. If he can accept the inspiration of the natural setting in building a better human environment, he will find a compelling logic in the sense or regional identity of New England, with its hills and valleys; of the Great Lakes with their gently rolling glacial terrain; of the Mississippi Valley with its surprisingly varied terrain; of the Great Plains, the land of vast distances enriched by the indigenous architecture of the ubiquitous grain elevator; of the stupendous grandeur of the Rocky Mountain region, of the red butte lands of the Southwest; and the Pacific coastal area.

After all, the most important field of inquiry to the future of architecture and of all the design professions is the creative design of the city itself. To design these we must first learn to visualize—to see cities as they are or should be in their natural setting and as they could be in the future. The designer, more than anyone else on the urban team has this composite perceptive potential to give structure both to the overall urban form and to
ITS PARTS IN THE CONTEXT OF THE PHYSICAL STRUCTURE OF ITS SITE.

TOWNSCAPE DESIGN IS BASED ON THE FUNCTIONAL AND ESTHETIC USE OF THE LAND; THE FIRST STEP IN MAKING IT IS TO DISCOVER THE QUALITY OF THE LAND. FROM A FUNCTIONAL AND ESTHETIC STUDY OF LAND USE A STUDY OF THE CHARACTER OF THE TOPOGRAPHY Follows.

FUNCTIONAL LAND USE STUDY IS RARELY OVERLOOKED; AESTHETIC IS, USUALLY. IF THE TOWN IS TO HAVE INDIVIDUALITY, IT IS NECESSARY TO ACCEPT THE INDIVIDUALITY OF THE LANDSCAPE ITSELF AND ALLOW IT TO SUGGEST THE DESIGN. THE AESTHETIC SENSIBILITY IN DETERMINING AN OVER-ALL PATTERN RESULTS IN A PREVAILING IDEA. THIS, BY NO MEANS, INTENDS THE MERE PRESERVATION WITHIN THE TOWN OF A RURAL CHARACTER, ALTHOUGH SOME MIGHT REMAIN AS A WORK BASIS, BUT THE USE OF THE OVER-ALL FORM AND PATTERN OF THE TOPOGRAPHY AS A FRAMEWORK WITHIN WHICH TO BUILD THE DESIGN. MOST ANCIENT CITIES EXPLOITED TOPOGRAPHY FOR DEFENSIVE REASONS, WITH THE CONSEQUENCE THAT THE LANDSCAPE FORMS GAVE THEM THEIR MOST IMPORTANT AESTHETIC CHARACTERISTICS. DEFENSE AGAINST AIR ATTACK CAN HARDLY BE TERMED A BASIS FOR A RELATIONSHIP OF THE URBAN FORM TO THE LAND FEATURES EXCEPT IN THE MOST MOUNTAINOUS REGIONS; THE CITY HAS BEEN LARGELY FREED OF ITS EARLIER PHYSICAL TIES. BUT THIS USE OF HILLS OR COMBINATION OF HIGH GROUND AND LOW GROUND DID MUCH IN MAKING THE CITIES DESIRABLE PLACES TO LIVE.
IF THE CITY WERE ONLY A WORKING-PLACE, A UTILITARIAN MACHINE
OR TOOL FOR EARNING A LIVING AND MAKING MONEY, IT WOULD BE
POSSIBLE TO STOP HERE IN THE SEARCH AND SUGGEST MEANS OF MAKING
IT MORE EFFICIENT, LESS WASTEFUL, AND FULLY PRODUCTIVE—IN SHORT TO
APPLY THE PRINCIPLES THAT ARE USED IN OPERATING A FACTORY OR
MANAGING A BUSINESS. WE WOULD THEN BE AVOIDING THE MAIN ISSUE:
IN HIS SEARCH FOR THE CITY MAN HAS LOOKED FOR OTHER THINGS. HE
HAS LINKED THE CITY WITH HIS NOBLEST AIMS AND HOPES FOR CIVILIZATION.
YET HIS RECOGNITION OF THE URBAN CONTENT AND TOPOGRAPHY PLAYS
AN ON-AGAIN OFF-AGAIN ROLE. AT PRESENT ALL CITIES ARE LOCATED ON
SOME PIECE OF THE SURFACE OF THE EARTH; SOMEHOW THEY MUST JOIN
IT. NORMALLY THIS PIECE HAS THREE DIMENSIONS, YET MAN ASSUMES
POSITIVE KNOWLEDGE OF ONLY TWO. HE HAS HAD THE DESIRE TO REACH
ALTITUDE AND CHANGE THIS VERTICAL POSITION ABOVE OTHER TOPOGRAPHIC
ELEMENTS BY FLYING, TOWER STRUCTURES; MOUNTAIN CLIMBING—THE
DREAMS OF VICTORY OVER GRAVITY HAVE BEEN UTOPIAN AIMS SINCE
TIME IMMEMORIAL; YET WHERE HE HAS THE OPPORTUNITY TO CREATIVELY
EXPLOIT THESE FEATURES OF THE LANDSCAPE IN HIS URBAN ENVIRONMENT
THE DESIRE SEEMS TO WANE. THE OLD IDEAS ARE STILL STRONG AND
THE NEW CONCEPTIONS HAVE NOT YET FOUND A CONCRETE EXPRESSION.

THE FIRST MEANS TO INTERPRET AND EXPRESS TOPOGRAPHY IS
TO RECOGNIZE ITS POTENTIAL NOT AS PLANNING PROBLEMS, BUT AS

**ACTIVE DESIGN ELEMENTS**: WHAT LAND FORMS CAN MEAN TO THE

INHABITANT AND HIS CITY.
MAJOR THEMES

INTROVERT
THE PORTOFINO
THE HILL SIDE TOWN

EXTROVERT
THE HILLTOP ROWN
THE RIDGE TOWN

RANDOM
NATIVE VILLAGE
MOUNTAIN VILLAGE

MILITARY (GRID, RADIAL, ETC.)
ROMAN CASTRUM
"MODERN"GRID CITY

IN HISTORY THERE HAVE BEEN FOUR MAJOR THEMES OF URBAN ORGANIZATION;
COMBINATIONS OF THESE WERE NOT UNCOMMON. IT IS THE FIRST THREE OF
THESE — THE INTROVERT, THE EXTROVERT, AND THE RANDOM—WHICH HAVE BEEN
THE MOST EXPRESSIVE IN RELATING THE MAN-MADE URBAN FORM TO THE
FEATURES OF THE LANDSCAPE. THE MILITARY WAS MOST APPROPRIATE ON LEVEL
LAND, BECAUSE OF ITS UNCOMPROMISING DISCIPLINE, BUT WAS NOT CONFINED TO IT.
INTROVERT VALLEY

LINEAR EXTENSION OF RIDGE AND VALLEY

LANDFORMS CAN GIVE A DEFINITE SCHEMATIC ORIENTATION TO THE OVER-ALL URBAN FORM OR TO ITS PARTS; OTHERS ARE COMBINATIONS OF THESE BASIC THEMES.
ARRANGEMENT

THE ESSENTIAL SCHEME—NOT FORM—OF A TOWN SHOULD BE VISIBLE FROM A VIEW OF THE PLAN. IT STEMS FROM THE ARRANGEMENT OF ITS PARTS REFLECTING CERTAIN RELATIONSHIPS WHICH REPRESENT ALSO THE COMBINATION OF ELEMENTS TO STRUCTURE THE TOWN. ONE VERY DEFINITE ELEMENT IS THE TOPOGRAPHY. WHEN NO CHARACTER AND STRUCTURE IS EVIDENT, IT IS BECAUSE THE SCHEME HAS BEEN CONFUSED OR HAS DISAPPEARED.

IF THERE IS LOGIC IN THE ARRANGEMENT OF A CITY'S ANATOMY AND IF THAT ARRANGEMENT IS VISIBLY EVIDENT—ARTICULATED—THE SENSE OF ORIENTATION WILL BE STRONG. IF THERE IS LOGIC BUT LITTLE OR NO VISIBLE ARTICULATION, A CITY CAN BE CONFUSING EVEN TO THE POINT WHERE IT AROUSES A HIGH DEGREE OF FRUSTRATION, ANXIETY AND THE FEELING OF BEING LOST. THE LOGIC OF ARRANGEMENT AND ITS VISIBLE EVIDENCE, ACHIEVED THROUGH DESIGN, IS THE PRIME DEVICE FOR IMPROVING ORIENTATION. SIGNS ARE SECONDARY DEVICES. WHERE SIGNS ARE RELIED UPON TOO HEAVILY, THEY MAY ADD TO THE CONFUSION OR GO UNHEEDED.

DEFINITION IS IMPORTANT BOTH TO THE INHABITANT AND THE VISITOR. THE CREATIVE USE OF TOPOGRAPHY CAN DEFINE THE ELEMENTS OF THE CITY AND GIVE IT ALL OVERALL SCHEME. EXCITEMENT COMES WITH EMPHASIS; THE AMORPHOUS GRID DOES LITTLE TO MAKE THE CITY COMPREHENSIBLE AS A WHOLE; IT IS MERELY AN EASY WAY OUT FOR THE UNCREATIVE DESIGNER.
CITIES WERE COMMONLY A DAY'S JOURNEY DISTANT FROM EACH OTHER.

WHEN DIFFICULT TOPOGRAPHIC FEATURES INTERVENED, THE CITIES COULD BE GEOGRAPHICALLY CLOSE YET DISTANT CONCERNING COMMUNICATION. THE TELEGRAPH AND AIRPLANE HAVE CHANGED THE SITUATION SUCH THAT COMMUNICATION IS NO LONGER BASED ON GROUND DISTANCE, BUT INSTEAD ON AIR DISTANCE.
THE BARRIER, EDGE, AND LINK CAN ALL SERVE TO DIENGAGE TWO
FUNCTIONS JUST AS THE WALL BETWEEN THE GRANDSTAND AND AUTO COURSE. IN
CHANGING THE SCALE TO THE LANDSCAPE A SIMILAR SITUATION OCCURS. IT
DEPENDS ON HOW THE TERRAIN IS DESIGNED. IF IT IS ASSUMED THAT THE
TOWN HAS BOUNDARIES WHERE THE COUNTRY BEGINS AND IF TOPOGRAPHY PUTS
DOWN AN OBSTACLE, IT SIMPLY MEANS THAT AT THAT POINT ALL THINGS HAPPEN
AT ONCE, TURNING CHAOS INTO AN EVENT. THE APPARENT HAZARDS BRING
CLARITY; IT IS NOT ZONING. THE SPLIT IS A SPECIAL CASE WHERE SEPARATION
OF ESSENTIAL FUNCTIONS MAY OR MAY NOT OCCUR.
TRANSPORTATION

MAN HAS ALWAYS HAD HIS MOVEMENTS AND THAT OF HIS SUPPLIES DETERMINED BY LAND CONFIGURATION. IT WAS A TEDIOUS PROCESS TO WIND UP A MOUNTAIN OR CIRCUMVENT IT BY GOING AROUND. NEW TECHNOLOGY HAS ALREADY BEEN APPLIED TO THE SKI SLOPES AND SKYSCRAPERS. AS THE CAVE WAS MAN'S FIRST HOME, THE EXTENSION OF IT--THE TUNNEL--OPENS NEW REGIONS. THE COAL AND SALT MINE ARE ILLUSTRATIONS OF MAN'S PENETRATION AT PRESENT.

NO LONGER IS TRANSPORTATION LIMITED TO VALLEY FLOORS OR RIDGE TOPS. THE RISE OF SERVICE INDUSTRY MAKES POSSIBLE THE TRANSPORTATION AND EXCHANGE OF IDEAS, NOT MATERIALS. ONLY THE RIVER TRANSPORT REMAINS TIED TO THE VALLEY. THE AIRPLANE MAY CARRY GOODS; CABLES AND WIRES CAN BE STRUNG ANYWHERE. ANOTHER FREEDOM IN URBAN LOCATION AND URBAN COMPOSITION.
JUST AS THE GREAT WALL OF CHINA WAS A DELIBERATE ATTEMPT TO EXTEND AND REINFORCE THE PROTECTIVE CONFORMATIONS OF THE NATURAL MOUNTAIN RIDGES SO WERE THE CITADEL, HILL CASTLE, OR EARTHWORKS PROTECTING THE CITY. THE BOMBER AND MISSILE RESPECT NO LAND FORM; NO SAFETY EXISTS IN LOCATION OR IN ARRANGEMENT. TODAY A NEW FREEDOM IS EVIDENT AS DEFENSE IS FOR THE FIRST TIME NEITHER SIGNIFICANT IN SITING THE CITY NOR COMPOSITION OF ITS ELEMENTS. THE CITY CAN BE ANYWHERE AND OF ANY FORM.

...TOWNS, FOR 2,000 YEARS HAVE BEEN DETERMINED BY MILITARY DEFENSES. TODAY THE AIRPLANE HAS ANNULLED THE WALL; TOWNS HAVE NO LONGER WALLS NOR HAVE THEY A ROOF. THEY HAVE NO OTHER DEFENSES BUT MILITARY EQUIPMENT WITH WHICH TO OPPOSE ATTACKING AIRCRAFT. 6
GRAVITY

GRAVITY IS ONE OF MAN'S GREATEST ENEMIES. IT HAS SHAPED MAN HIMSELF, CONDITIONED HIS BODY AS WELL AS HIS THOUGHTS AND PUT ITS UNMISTAKABLE STAMP UPON HIS CITIES. THUS IN THE NARROW WINDING VALLEYS OF THE WORLD, LIFE IS IN A CONTINUAL BOTTLE WITH GRAVITY. ONE MUST LIVE IN THE VALLEY'S BOTTOM OR FIGHT THE SLOPE UNTIL HIS DYING DAYS.

THE CITY MAY REST IN A VALLEY OR ON A PEAK, BUT IT IS THE CITY OF WHICH THE WHOLE OR PARTS OF IT CHALLENGE THE NATURAL FORCE OF GRAVITY ON THE SLOPE WHICH ANIMATES IT AND CONVEYS AN EXCITEMENT.

WHERE THE OLD CITY WAS A COMBINATION OF MANY FORCES WORKING INDEPENDENTLY, TECHNOLOGY CAN CONNECT THE PARTS AS A TOTAL STRUCTURAL SYSTEM. (SWISS STEPPED HOUSING; SANTA INEZ CANYON PROJECT, CALIFORNIA.)
NATURAL OPERATION;
HUMAN OPERATIONS

Nature generally operates through steady accumulation of small amounts of work over large areas. In contrast, man's operations are locally concentrated. Thus it is man who, with his ever-increasing availability of energy, must be conscious of the responsibility he has in employing it in a creative way. Man is the only unnatural force which can determine its destiny and control its evolution; he is responsible for decisions as to the growth or decline in the quality of the landforms. His values should be constantly expanding in terms of imagination and creative synthesis.

Nature has already produced her maximum for us, while the potential creativity of human society is yet in its infancy, scarcely tapped in tiny sections of our environment.
WE MIGHT REGARD A SMALL TOWN AS AN OBJECT IN THE EMBRACE OF NATURE, A LARGER TOWN AS BEING HAND-IN-HAND WITH NATURE, AND FINALLY THE LARGE CITY AS ASSUMING THE ROLE OF NATURE AND BECOMING THE ENBRACER. ¹⁰

BUT THE SITUATION BECOMES MORE COMPLEX AS MAN’S ACTIVITIES BECOME INCREASINGLY EXTENSIVE. THE FACT THAT MAN’S STRUCTURES WILL DOMINATE NATURE DOESN’T MEAN THAT THEY SHOULD SPOIL IT AS WELL.

THE PROBLEM IS ONE OF THE VERY LARGE AND VERY SMALL—HOW TO CREATIVELY ORGANIZE THEM.
THE THREE-DIMENSIONAL LANDSCAPE HAS AN INHERENT ADDITIONAL RELATIONSHIP.

THE CONCERN WITH ISOLATED PICTORIAL COMPOSITIONS, AND WITH TWO-DIMENSIONAL PATTERNS, THE SNARL OF PATTERNS OF LINES ON PAPER WHICH PRODUCE NO THREE-DIMENSIONAL RESULT ON THE GROUND, IS ONE OF THE ROOTS OF THE PRESENT-DAY ESTHETIC AND FUNCTIONAL INADEQUACY OF AMERICAN URBAN DESIGN. THIS IS AN INADEQUACY OF INCOMPLETE OVERALL SITE CONCEPTIONS, AND THEY ARE INCOMPLETE BECAUSE THERE IS NO CONCEPT OF SPACE, OF VOLUME, TO PULL THESE SCATTERED ITEMS OF PICTURES AND PATTERNS, SITE AND BUILDINGS, NATURAL AND STRUCTURAL ELEMENTS, INTO A UNITY GREATER AND MORE COMPELLING THAN THEIR MERE DISORGANIZED ACCUMULATION.
Landforms, by their very nature, when in proximity, define space. The addition of other forms (or the alteration of the land) sets upon entirely new series of spaces which may increase, decrease or break up the original space.

IT IS IN THOSE INSTANCES WHICH WERE MOST SUCCESSFUL IN REINFORCING THE TOPOGRAPHIC FEATURES THAT BEST REFLECTED AN ORGANIZATION AND COMPREHENSION OF PLACE. ON THE FLAT TERRAIN, ORDER WAS SUGGESTED BY THE TWO-DIMENSIONAL PLAN. THE ORDER EXISTED IN ONLY TWO-DIMENSIONS AS WELL. MAN WAS FREE TO IMPOSE WHATEVER SORT OF ORDER HE DESIRED ON THE LEVEL SITE.
NO LAND FORMS
CREATED OWN BUT RELATED
(THE MAYAN)

LANDFORMS SUBTLE
REINFORCED AND ACCENTED
(THE MIDDLE AGES)

LANDFORMS DOMINANT
INTEGRATED
(THE CLIFF DWELLERS)

THREE BASIC EXAMPLES ARE ILLUSTRATIVE OF THE CREATIVE USE OF

TOPOGRAPHY AND ITS RELATION TO THE SCALE OF MAN'S STRUCTURES

CONSIDERING THE TECHNOLOGY OF THE TIME. THE PRINCIPLES WHICH THEY

REFLECT ARE NO LESS VALID TODAY IF THE RELATIVE SCALE OF MAN'S FORMS

TO NATURES IS CONSIDERED.
FLAT TERRAIN PRESENTS A DIFFERENT PROBLEM. HERE MAN HAS COMPLETE FREEDOM TO COMPOSE WHATEVER FORM HE DESIRES. SO FAR PRISMATIC MASSES RANDOMLY FILLING THE VOIDS OF THE GRID, RADIAL, AND HEXAGONAL PLANS HAVE BEEN POPULAR. THE EARTH WAS A RECIPIENT, NOT A PARTICIPANT.

THE MEGASTRUCTURE MAKES THE PROBLEM GREATER BECAUSE OF THE BUILT-IN DESENGAGEMENT OF THE HUMAN FROM THE EARTH BY ITS ARTIFICIALITY AND SCALE. A TRANSITION OR FORM SYMPATHETIC TO THE EARTH TEMPERS ITS IMPOSITION AND RETAINS A SEMBLENCE OF ATTACHMENT TO THE GROUND TO WHICH MAN HAS LONG BEEN ASSOCIATED. THE MAYAN RECOGNIZED THIS NEED 3,000 YEARS AGO.
A definite difference is involved when comparing the topographical urban form and its composing elements. It is what broke up the possible monotony of the Italian hill towns. The elemental configuration is not necessarily the same as the whole.
FUNCTIONAL ASPECTS OF TOPOGRAPHY

THE FUNCTIONAL DISTRIBUTION OF ACTIVITIES FOR TOPOGRAPHIC REASONS HAS HAD SIGNIFICANCE THROUGHOUT HISTORY. THE CONTRASTS BETWEEN SUNNY AND SHADOWY SIDES OF VALLEYS AND SLOPES INFLUENCED THE DISTRIBUTION AND TYPE OF SETTLEMENT. THE LOWER PARTS WERE MORE FAVORABLE FOR INDUSTRY AND TRAFFIC, THE HIGHER PARTS FOR PASTORAL ECONOMY. BOTH WERE SEPARATED BY AN INTERMEDIATE ZONE WHERE FORESTRY AND SETTLEMENT WAS FAVORED BECAUSE IT WAS UNFAVORABLE FOR TRAFFIC, CULTIVATION OR CATTLE FARMING.

ALTHOUGH THE MANDATORY DISTRIBUTION OF ACTIVITIES HAS LESSENED DUE TO INCREASED TECHNICAL CAPABILITIES, WHAT MAY BE TERMED A LOGICAL DISTRIBUTION FOR SLOPES AND FLAT TERRAIN CAN BE ASSEMBLED FOR TODAY'S USE.
FUNCTIONAL ASPECTS

LARGE FLOOR AREA UNITS
- INDUSTRY
- AGRICULTURE (MECHANIZED)
- RACE TRACKS
- FOOTBALL
- TENNIS
- BASEBALL
- BASKETBALL
- TRACK
- POLO

FLAT TERRAIN
- SPORTS (FIELD)
- OFFICE AND BUSINESS (LARGE)
- AUTOMOTIVE FACILITIES

VIBRATION
- HEAVY LOADS
- GREAT EXCHANGE OF GOODS

SMALL FLOOR AREA UNITS
- MOTEL
- HOTEL
- HOUSING
- SPORTS
- HIKING TRAILS
- CLIMBING
- SKING
- TOBOGGAN

SLOPES
- OFFICE AND BUSINESS (SMALL)
- HOSPITAL
- RESTAURANT
- GRAZING AND PASTURE

EDUCATIONAL - CLASSROOMS - FIELDS
- STADIUM AND THEATERS
- GOLF COURSES

COMBINATION
- PARKS AND PICNIC GROUNDS
THE SUCCESS WITH WHICH THE DESIGNER DISCOVERS AND GIVES VISUAL INTERPRETATION TO THE MOST SIGNIFICANT LINES OF FORCE WILL LARGELY DETERMINE WHETHER THE TOWN ACHIEVES AN INTELLIGIBLE AND CHARACTERISTIC FORM.\textsuperscript{12}

AN ILLUSTRATION CAN BE SEEN MOST CLEARLY IN THE MEDITERRANEAN OR OTHER SEASIDE HILL TOWNS. THE COMMON LOCATION ON A BAY OR CAVE NATURALLY FOCUSES THE ENTIRE TOWN ON THE WATER ELEMENT. BUT IT IS NOT A LINE OF FORCE — AN OBVIOUS AND IMMEDIATE RELATIONSHIP WITH LINES OF DEMARCATION IN THE TOPOGRAPHY. THE HOUSES AND CLIFFS DESCEND ALMOST TO THE WATER LINE BUT AT THIS POINT THE LINE OF FORCE DOMINATES EXPRESSING THE ACTIVITY AND COMMON UNITY OF THE WATER FRONT WITH A CONTINUOUS SHELF—THE QUAY.
SIZE OF STRUCTURE

Mount St. Michel is recognized as a land form because of the knowledge of the technology and scale of the time.

With the typical structures of today—obliterated.

It can be accented by association of structure.

By detachment

The size and composition of new structures can all but obliterate any smaller landforms, but they can also be used as reinforcement by recognizing the character of the particular land feature.
THE GROWING SIMILARITY OF END-PRODUCTS IS A MARK OF OUR
CIVILIZATION. THE STANDARD PLAN HAS NOT BEEN THREATENED, THE
GRID AND PSEUDO-GRID HAVING LONG AGO USURPED AUTHORITY FROM
OTHER FORMS.

THUS PRODUCTS ARE STANDARDIZED; COMMUNICATIONS ARE
STANDARDIZED; CITY ELEMENTS ARE STANDARDIZED; CITIES ARE
STANDARDIZED. SITE TOPOGRAPHY, WHERE IT EXISTS, MAY BE THE ONLY
MEANS TO EXPRESS AN UNSTANDARD CITY FORM. DIFFERENCES MAY BY
CONTRAST BE SUBTLE, SOMETIMES SPECTACULAR, BUT THEY ARE TO BE
FOUND IN THE SETTING, SOMETIMES DOMINATING, SOMETIMES SUGGESTING
BUT POSSESSING THE POTENTIAL OF UNIQUENESS. IT IS THE UNCOMMON
CONDITION PRESENTED BY NATURE WHICH LEADS TO AN UNCOMMON
SOLUTION. CURIOSITY GIVEN ENCOURAGEMENT YIELDS IDEAS, RESULTING
IS WHAT KEVIN LYNCH TERMS "THE CITY'S IMAGEABILITY."
SEQUENCE

CHANGES IN TOPOGRAPHY CAN GIVE ORGANIZATION TO THE DIFFERENT

PACES OF HAPPENINGS.

RESIDENCE  RECREATION  ACTIVITY

WHEN CITIES ARE SURROUNDED BY HILLS OR OTHER APPARENT LIMITING

OBSTACLES TO GROWTH, RESIDENCES, ACTIVITY AND RECREATION COINCIDE.

IF SLOPES ARE USED AS RESIDENCE AREAS A TWO-UNIT SEQUENCE CAN

DEVELOP.

IF THE SLOPES ARE USED AND AN ADDITIONAL CHANGE IN TERRAIN EXISTS,

A THREE UNIT SEQUENCE CAN DEVELOP.
IMMEDIACY

WE SOMETIMES BECOME TIRED OF ALL THESE CONVENTIONS GETTING IN THE WAY AND WE LONG FOR THE DIRECT CONTACT, WHETHER IT BE THE EDGE OF WATER OR THE EDGE OF HEIGHT—THE CONCEPTION OF CATEGORIES AND THEIR JUXTAPOSITION GIVES DRAMA AND CLARITY TO THE LANDSCAPE.  

HERE THE HOUSES ENTER INTO THE SPIRIT, INTO THE WILDERNESS OF THE SCENE BY CROWDING UP TO THE EDGE OF THE CLIFF, UP TO THE DANGER POINT. HAD THEY BEEN SET BACK A HUNDRED FEET OR SO ALL WOULD HAVE BEEN LOST AND RUINED SINCE THE EFFECT WOULD HAVE BEEN ONE OF A PRISSY SUBURBANISM.
The visual experience of a city is enriched by major vista views of large portions and major elements of the city and contrasting natural scenery. The natural landforms give opportunity for this focus: a monument, landmark, park, building, section of the city or a place from which to focus on other areas. An identity and sense of place is important in the city. The proper use of natural features taking advantage of local scenic attractions are just those things that, judiciously chosen and suitably incorporated into the purposes of the city, give life, interest and definition to what otherwise might become a waste of ill-planned formality. The Arc de Triomphe in Paris is located at the summit of a small hill with twelve avenues leading to it; the Palais de Justice in Brussels occupies a commanding site on a hill and can be seen from nearly all parts of the city, although there are no great avenues leading directly to it.
THE VIEW FROM THE TOP OF A HILL AND TALL BUILDING IS NOT THE SAME; THE SKYSCRAPER VIEW OFFERS NO FOREGROUND; THE DISTANT VIEW IS OUTWEIGHED BY A LACK OF MIDDLE DISTANCE. NO MIDDLE DISTANCE WAS MORE APPROPRIATE WHEN PROTECTION AND OBSERVATION OF AN ENEMY WAS IMPORTANT. YET A COMBINATION OF THE TWO TYPES IS NEEDED FOR VARIETY.

OFTEN TOPOGRAPHIC FEATURES GO UNNOTICED WHEN THEY ARE CONSTANTLY BLOCKED FROM THE EYE BY LARGE STRUCTURES AS BARRIERS. THE SMALLER THESE FEATURES ARE, THE MORE EASILY THEY ARE LOST.
SLOPES

THE VISUAL PROCESS: GLANCE OVER ALL THINGS, CATCHING MASS, COMPOSITION, AND FORMING A GENERAL IMPRESSION.
SETTLE ON MAJOR DIVISIONS TO PERCEIVE AND ANALYZE DETAILS.

THUS WHEN STRUCTURES ARE PLANNED ON SLOPES THEY REQUIRE SPECIAL CONSIDERATION BECAUSE THE DESIGNER MUST BE TOTALLY CONSCIOUS OF THESE NEW OVER-ALL COMPOSITIONS AND DETAILS.

FLAT TERRAIN
SLOPED TERRAIN

HILLSIDE STRUCTURES ARE ALSO SUBJECT TO A MAJOR POINT OF VIEW FROM ABOVE OR BELOW.

(STATEMENT OBJECT—VIEW CHANGES WITH ELEVATION OF VIEW POINT)
SLOPES PROVIDE DIFFERENT VIEWS OF OBJECTS FROM DIFFERENT ELEVATIONS, REQUIRING DESIGN CONSIDERATION.

BECAUSE OF OBLIQUE ANGLES OF SIGHT, EVEN THE LIMITED FIELD OF VISION TAKES IN AN EXTENSIVE VISTA.

142
Levels

The art of manipulating levels is a large part of building the urban form. Variations of ground level naturally occur in the topography and may be artificially created as well. The psychological and visual aspects are qualities in a world which refuses to be flat.

Simplest of all consists of seeing, of being aware of, the undulation of the ground. The more nearly flat a site may be, the greater the need to have knowledge of slight changes in elevation. The masses and the voids make up the compositions; hills, mountains and convex forms make up the masses while valleys, plains, and water surfaces form the voids. Man lifts his eyes to the hills and rests them in the valleys; and instinctively classifies mass and void in relation to the scale of his own figure in landforms.
RENAISSANCE PLANNERS USED LONG VISTAS FOR A "HERE" AND "THERE" RELATIONSHIP. SIMPLE CHANGES IN LEVEL ALSO PRODUCE THIS EFFECT. HILL TOWNS HAD THIS BUILT INTO THEIR URBAN STRUCTURE.

TALL OBJECT FROM BELOW APPEARS MORE MONUMENTAL
THE SAME TALL OBJECT FROM ABOVE APPEARS LESS MONUMENTAL

APPEARENT SIZE AND SCALE OF OBJECTS AND STRUCTURES VARY ACCORDING TO THE RELATIVE POSITION IN LEVEL OF THE OBSERVER AND OBJECT.
LEVELS

PSYCHOLOGICAL

TO GO ABOVE DATUM: ASCEND

...not only a view, but a feeling of advantage, of getting into a position of privilege and authority, a place somehow worth going to; into the unknown; command, superiority, and exhilaration.

TO GO BELOW DATUM: DESCEND

...a feeling of going to the known; coziness, intimacy, seclusion, protection.

Although the phraseology of politics defines a person's position in terms of being "left" or "right" or "center", the more usual and natural classification is "up" and "down" (we look "up" to some people; we describe others as having a "low" mentality; we say heaven is "up"; hell is "down"). Even in the monotonous modern town the awareness of level stimulates both citizen and traveller. Every place has its datum-line; one may be on it, above it, or below it.
DEMONSTRATION

BACKGROUND
SURVEY
PROPOSAL
BACKGROUND

THE CITY OF DUBUQUE IS LOCATED ON THE WESTERN BANK OF THE MISSISSIPPI RIVER AT THE TRI-STATE CORNER OF IOWA, ILLINOIS AND WISCONSIN. IT SERVES AS THE REGIONAL CENTER FOR AN AREA APPROXIMATELY FORTY MILES IN RADIUS AND FOUR THOUSAND SQUARE MILES IN SIZE AND REPRESENTING 1/4 MILLION PERSONS. IT IS THE CONVERGENCE POINT OF REGIONAL HIGHWAYS, RAILROADS, AIRLINES, AND RIVER TRAFFIC.

PRESENT POPULATION IS 65,000.

TOPOGRAPHY OF THE DUBUQUE AREA IS CHARACTERIZED BY SEVERAL PREDOMINANT FEATURES: SHARP, HIGH BLUFFS 200 FEET IN HEIGHT AND DEEP RAVINES ALONG THE MISSISSIPPI VALLEY; RUGGED HILLY TERRAIN IN NORTHWESTERN ILLINOIS AND NORTHEASTERN IOWA; AND ROLLING FARM-LANDS IN EASTERN IOWA AND SOUTHWESTERN WISCONSIN. THE CITY OF DUBUQUE HAS DEVELOPED ALONG THE MISSISSIPPI VALLEY FLOOR AND ON THE WESTERN BLUFFTOPS. THE LANDSCAPE AROUND THE CITY IS A PATTERN OF SMALL ROLLING FARMS, FORESTED BLUFFS AND HILTONS, BROKEN RIDGES AND RAVINES, SCATTERED SETTLEMENTS AND WINDING RURAL ROADS. IT IS AREA COMPLEX IN TOPOGRAPHY, RICH IN AGRICULTURE, BUT INCREASINGLY URBAN IN- ECONOMICS AND ORIENTATION.
IN 1785 THE BLUFFS TO THE SOUTH OF THE CITY ATTRACTED JULIEN DUBUQUE, A FRENCHMAN AND THE FIRST WHITE RESIDENT OF IOWA, FOR THEIR COMMERCIAL POSSIBILITIES AS LEAD MINES. BY 1800 HIS "MINES OF SPAIN", AS THEY WERE CALLED, DREW OTHER SETTLERS AND A MINING AND LUMBER VILLAGE WAS ESTABLISHED ON THE VALLEY FLOOR NEAR THE PRESENT FOURTH AND MAIN STREETS.


THE CIVIL WAR CHANGED THE CITY TO A MANUFACTURING ECONOMY. AFTER A RAILWAY BRIDGE CROSSED THE MISSISSIPPI IN 1867, THE RAILWAY LINES CONVERGED UPON THE CITY FROM THE RIVER VALLEYS TO THE NORTH, SOUTH AND WEST. THE GRID PATTERN WAS EXTENDED ACROSS THE TRACKS TO THE EAST OF THE CITY ON FILLED LAND ALONG THE RIVER AS INDUSTRIAL SPACE DEMANDS BROUGHT ADDITIONAL DEVELOPMENT. TO THE WEST, ROADS
WERE EXTENDED FROM EACH OF THE FIVE NARROW RAVINES NEAR THE VALLEY FLOOR IN A RADIAL PATTERN OUTWARD TO THE UPPER TERRACES ABOVE THE BLUFFS; NEW RESIDENTIAL DEVELOPMENT BELOW THE BLUFFS EXTENDED THE GRID NORTHEAST ALONG THE BLUFFS AND NORTHWEST IN A SECONDARY VALLEY.

IN THE PERIOD BETWEEN 1880-1900 A LARGE EXTENT OF CHURCH AND INSTITUTIONAL BUILDING ON THE HILLTOPS SURROUNDING THE CITY IN A CONTINUOUS PATH FROM NORTH TO SOUTH. IN THE 1900-1930 PERIOD WESTWARD RESIDENTIAL EXPANSION DEVELOPED AS LAND IN THE VALLEY AND IMMEDIATE BLUFFTOPS BECAME MORE SCARCE. A MUNICIPAL AIRPORT WAS LOCATED ON AN ISLAND IN THE RIVER NORTH OF THE CITY. THE WESTWARD EXPANSION HAS CONTINUED INTO THE 1960'S.
IN MAKING A TOPOGRAPHIC SURVEY OF DUBUQUE, ONE MUST
RECOGNIZE WHAT CONFIGURATION OF THE NATURAL FEATURES MAKE THE
CITY UNIQUE FROM OTHERS. IT IS THIS PARTICULAR FRAMEWORK
OF ELEMENTS, SUGGESTED IN THE CITY STRUCTURE, WHICH MAKE
CLEAR THE OVERALL URBAN ORGANIZATION—THE URBAN FORM: DEPENDENCE
ON A MAP IS A COMPROMISE. IT IS THE TASK OF THE DESIGNER TO MAKE
THESE FEATURES RECOGNIZABLE AND EFFICIENTLY USEFUL BOTH TO THE
INHABITANT OF THE CITY AND, PERHAPS MORE IMPORTANT, THE TRANSIENT AS
WELL. IF THEY ARE NOT UTILIZED AESTHETICALLY AND FUNCTIONALLY AT
PRESENT A NEW ORGANIZATION SHOULD BE PROPOSED AS A GUIDE TO FUTURE
DEVELOPMENT. THE URBAN FORM WILL CHANGE (I. E. REMARK OF PYTHAGORAS:
"...THINGS VARY AND ADOPT NEW FORM..." ) AND THE CITY CAN CHANGE IN A
POSITIVE DIRECTION JUST AS EASILY AS IN A NEGATIVE ONE.

THE TOPOGRAPHY OF DUBUQUE BASICALLY EXHIBITS FOUR DOMINANT
ELEMENTS: THE VALLEYS (THE "VOIDS"), THE BLUFFS (THE "MASSES"),
THE RIVER, AND THE AREAS OF RELATIVELY LEVEL LAND IN RELATION TO
THEM BETWEEN THE BLUFFS AND THE RIVER AND ABOVE THE BLUFFS. ITS
CHARACTER SHOULD BE THAT OF A "BLUFF–RIVER TOWN", BUT THE SMALL
DEGREE OF SUCH AN IMAGE TODAY IS DUE ONLY TO ITS NATURAL TOPOGRAPHIC
SETTING, AND NOT TO ANY DELIBERATE PLANNED ORGANIZATION.
THE MISSISSIPPI RIVER AND FLAT LAND BETWEEN THE BLUFFS COMBINE

TO MAKE UP THE LARGEST OF THE VALLEYS. IT IS DEFINED AS A GENTLE
CURVE RUNNING SOUTHWESTERLY, THEN SOUTHEASTERLY WITH AN AVERAGE
WIDTH OF ONE AND A HALF MILES. ITS CONTINUITY IS BROKEN ONLY BY
TWO LARGE BRIDGES—ONE TO THE NORTH OF THE CITY, THE OTHER AT THE
SOUTH. IT IS THE MAJOR "VOID" OF THE LANDSCAPE COMPOSITION. IT
WAS ON THE KIDNEY-SHAPED LAND OF VALLEY FLOOR WHERE THE CITY WAS
ESTABLISHED AND WHERE THE "DOWNTOWN", THE HEART OF THE CITY, EXISTS
TODAY. IN THE MAIN VALLEY ALSO THE HIGHWAYS AND RAILWAYS CONVERGE.
INDUSTRY FollowS THE HIGHWAY AND RAILWAY, THUS ITS LOCATION THERE;
RIVER-BASED INDUSTRY IS ATTRACTED ALONG THE SHORELINE.

THE VALLEY, AS THE CROSS ROADS OF PEOPLE, GOODS, AND SERVICES AND
THE PSYCHOLOGICAL "KNOWN" SHOULD REMAIN AS THE URBAN FOCAL POINT. THIS
CONCEPT OF A TRANSPORTATION CENTER AT THIS LOCATION AND AS THE ENTRY
TO THE CITY IS AT PRESENT NON-EXISTENT. HOTELS REMAIN IN THE CITY,
WHILE MOTELS, JUST AS SIGNIFICANT, ARE SCATTERED AT THE PERIMETER;
DIFFUSED AIR, RAIL, AND BUS TERMINALS PRESENT ONLY AN INDUSTRIAL SCENE
TO THE VISITOR, TRAVELER, AND TOURIST. A NEW TRANSPORTATION AND TRANSIENT
ACCOMMODATION CENTER GIVING THE VISITOR AN INITIAL COMPREHENSION OF
THE CITY AS AN ENFORCEMENT OF THE BLUFFS AND RIVER IS A SOLUTION. A
BOATEL FACILITY IS AN OBVIOUS ADDITIONAL ELEMENT IN THE CENTER AS
VACATION CRUISING ON THE RIVER INCREASES IN POPULARITY, AND IF LOCATED

150
NEAR HIGHWAY AND RAILWAY IT MAY SERVE BOTH LAND AND WATER.

THE TRANSIENT, UNLIKE THE INHABITANT OF THE CITY, HAS NO TIME TO LEARN BY EXPERIENCE; HE KNOWS WHAT IS VISIBLY EVIDENT AND CONVEYS THIS FIRST HAND IMPRESSION TO THE OUTSIDE WORLD.

THE SECONDARY VALLEYS—THE MINOR "VOIDS"—GENERALLY EXTEND PERPENDICULARLY FROM THE MAIN VALLEY. THEY PROVIDE THE MAJOR CHANNELS FOR TRANSPORTATION OUT OF THE MAIN VALLEY, BOTH HIGHWAY AND RAILWAY. THUS DIRECT ACCESS IS LIMITED TO SPECIFIC POINTS AND A DEFINITE, THOUGH RESTRICTED, ARTERIAL SYSTEM OF COMMUNICATION FROM THE VALLEY TO THE BLUFFTOPS IS ARTICULATED. THEY TEND TO REMOVE THE "UPTOWN" INHABITANT FROM THE "DOWNTOWN" AND WHEN COMBINED WITH HIGHWAY TRAFFIC THROUGH THE CITY, A FURTHER PROBLEM DEVELOPS.

EITHER MORE NUMEROUS ROUTES OR A DECREASE OF THE SEPARATION BY HIGHER DENSITIES CLOSER TO THE CITY CENTER IS REQUIRED. BUT AN INCREASE IN NUMBERS OF ROUTES IS DIFFICULT AS THE STEEPNESS OF THE SLOPES MAKES STREET CONSTRUCTION DIFFICULT INITIALLY, MAINTENANCE THEREAFTER AND CIRCULATION TEDIOUS (PUBLIC AND PRIVATE TRANSPORT); WINTER MAKES SNOW AND ICE REMOVAL MANDATORY AND COMPLETE. THESE CONSIDERATIONS HAVE RESULTED IN AN ADVANCE OF THE STREET SYSTEM EVEN FARTHER WEST TO MORE LEVEL TERRAIN, MAKING THE UPTOWN—DOWNTOWN RELATIONSHIP EVEN MORE REMOTE. THE EXPERIENCE OF LIVING "UPTOWN", BECOMES MORE FORCEFUL WHEN IN CLOSE PROXIMITY TO THE "DOWNTOWN", IF POSSIBLE, THOUGH VISUAL CONTACT. THUS A HIGH CONCENTRATION OF LIVING NEAR
THE DOWNTOWN COMBINED WITH A MORE EFFICIENT INTRA-CITY TRANSPORTATION MODE AND SYSTEM SUGGESTS A BETTER SOLUTION.

THE RIVER IS THE REASON FOR THE EXISTENCE OF THE MAJOR VALLEY. AS A VERY POWERFUL ELEMENT IT FORCES COMPETITION BETWEEN INDUSTRY AND RECREATION. FOR INDUSTRY IT OFFERS CHEAP, EFFICIENT BARGE TRANSPORTATION OF BULK SHIPMENTS OF GRAIN, PETROLEUM PRODUCTS, FERTILIZERS, AND COAL ON THE UPPER MISSISSIPPI RIVER SYSTEM; THE SHORELINE BECOMES IMPORTANT FOR INDUSTRIES HANDLING AND DISTRIBUTING THESE COMMODITIES. FOR THE RECREATION THE MISSISSIPPI IS A FLUID HIGHWAY SOME 1600 MILES IN LENGTH AND MAKES POSSIBLE A VARIETY OF WATER SPORTS IN SUMMER, AND WINTER SPORTS DURING THE COLD MONTHS. THUS THE SHORELINE BECOMES IMPORTANT FOR BOAT FACILITIES, BEACHES, AND PARKLAND. AS THE MISSISSIPPI RIVER SYSTEM IS ALSO A UNITED STATES FISH AND WILDLIFE REFUGE, HUNTING AND FISHING, SUMMER AND WINTER, ARE POPULAR RECREATIONAL PAST TIMES.

POSSIBLE FOR THE NON-BOATER, BUT NEVER IMMEDIACY IN A RIVERFRONT PARK. A SOLUTION ACCOMMODATING BOTH FUNCTIONS IS REQUIRED.

THE BLUFFS--THE MASSES--ARE THE DOMINANT POSITIVE FEATURES OF THE NATURAL URBAN FORM, YET THERE IS LITTLE EVIDENCE THAT THEIR POTENTIAL AS DESIGN ELEMENTS HAS BEEN INVESTIGATED. THE POSSIBILITY OF VISUAL CONTACT OF THE DOWNTOWN AREA FROM ABOVE IS LIMITED TO A TEN BY TWENTY FOOT OBSERVATION PLATFORM TERMINATING A PRIVATELY OWNED BLUFF CABLE CAR. THOUGH THE MAJOR PARK IN THE NORTH OFFERS SPECTACULAR VIEWS OF THE LOCKS AND DAM AND THE POOL UPSTREAM WHICH LIE 200' BELOW, IT BEARS LITTLE RELATIONSHIP TO THE CITY PROPER. THE ROLE OF PARKLAND IN THE CITY IS NOT ONLY ONE OF TOTAL NUMBER OF ACRES, BUT THE DISTRIBUTION OF THEM IN STRATEGIC SITING AS WELL. MOST OF THE BLUFFTOPS ARE INEFFECTUALLY DEVELOPED BY A SMALL NUMBER OF SINGLE FAMILY RESIDENTIAL UNITS AND, WHILE THEY PROVIDE PROMINANT SITING FOR A LIMITED FEW, THEY ACCOMPLISH NOTHING TO MAKE THE BLUFFS MEANINGFUL FOR THE POPULATION AS A WHOLE. A MORE EFFICIENT EXPLOITATION FOR RESIDENCE AND COMMON FACILITIES (RESTAURANT, LOOK-OUT, ETC.) IS A BETTER SOLUTION.

THE STREET SYSTEM AT THE BASE OF THE BLUFF IS ILL-SUITED TO THE TOPOGRAPHY IN TWO WAYS. FIRST, THE RECTILINEAR GRID SYSTEM CONFLICTS WITH GENERALLY CURVED BLUFF CONFIGURATION CAUSING A CONSTANT DISCONTINUITY. THE CONFIGURATION OF DOWNTOWN ELEMENTS BECOMES ESPECIALLY IMPORTANT IF VIEWED FROM ABOVE. SECONDLY, STRUCTURES OF A CONSIDERABLE
EXISTING

POSSIBLE

AWARENESS OF BLUFFS

THUS THE BASIC OBJECTIVES CAN BE SUMMED UP AS AN EMPHASIS OF SOLIDS, VOIDS, AND THE RIVER ACCORDING TO THEIR ESTHETIC AND FUNCTIONAL AMENITIES.
EXISTING

POSSIBLE

BLUFFTOP VIEWPOINTS
THE CONCEPT


PRESENT POPULATION (1965) IS 60,000 OF WHICH 16,000 ARE LOCATED IN THE BLUFFS-RIVER AREA. PROPOSED IS A CONCEPT FOR AN EVENTUAL POPULATION OF 110,000 TO BE REACHED APPROXIMATELY IN THE YEAR 2000, OF WHICH SOME 50,000 PERSONS WILL BE LOCATED IN THIS SAME AREA. THUS THE LIMIT OF URBAN EXPANSION WILL REMAIN ESSENTIALLY AT ITS PRESENT EXTENT FOR 60,000 DESPITE THE INCREASED TO 110,000 INHABITANTS.
AS A RESULT OF ITS CONCENTRATION AND CONTINUITY, ALL OF THE URBAN
CORE MAY SHARE IN A COMMON MECHANICAL AND UTILITIES SYSTEM AND
THE MODULAR CHARACTER OF THE STRUCTURES MAKES FOR MORE ECONOMICAL
CONSTRUCTION. HOWEVER, THESE ARE ADDED ADVANTAGES OF THE CONCEPT,
NOT THE ESSENTIAL ONES.

THE SCHEME IS COMPOSED OF A PARALLEL FUNCTIONS ALIGNING THEMSELVES
ALONG THE GENTLE ARC OF THE DOMINATING BLUFFS OF THE MISSISSIPPI RIVER
VALLEY. STRUCTURES ON THE VALLEY FLOOR, "THE DOWNTOWN", HAVE
BEEN DESIGNED AS HORIZONTAL UNITS TERRACING TO A CENTRAL WATER
CHANNEL WITH "RESIDENTIAL BARS" AND "INDUSTRIAL VOLUMES" SUPERIMPOSED,
AVOIDING THE STANDARD ARTIFICIAL DOWNTOWN CANYON RESTRICTING INTRA-CITY
VISUAL COMMUNICATION. THEY ARE SITUATED SUCH THAT VISUAL CONTACT
IS CONSTANTLY MAINTAINED BETWEEN THE "DOWNTOWN" AND THE "UPTOWN" OF
THE BLUFFS. THE ONLY VERTICAL STRUCTURES OF THE VALLEY FLOOR ARE OFFICE
AND RESIDENCE TOWERS WHICH MARK A SERIES OF FOCAL POINTS, AND REFLECT
THE ARC OF THE SURROUNDING BLUFFS. THIS IS ESPECIALLY NOTICEABLE AS A
CHANGING VISTA IN TRAVELING THE BLUFF-BASE ROADWAY.

ATTRACTIVENESS AND EFFICIENCY OF THE URBAN CORE IS CONCEIVED AS
AN ALTERNATIVE TO AN INCONVENIENT SUBURBAN DIFFUSION. HOWEVER,
Provided is a choice of residence types in one of three major areas of varying densities: terrace or tower residence in the downtown (highest density) or on the bluffs (medium density) or single family, duplex, etc., residence (lowest density) beyond the blufftops for those who remain attached to the conventional housing arrangement.

Extensive employment of roof surfaces for circulation reinforces inhabitant and transient comprehension of orientation and disposition of natural and artificial elements of the urban form.

**Downtown**

The downtown, like much of the river bottomland, is traced with water channels. The resulting island nearest the river is maintained as a natural common leisure area to observe river activities, the unbuilt bounding eastern bluffs, barge traffic of industry to the west, picnicking, and quiet relaxation. The western shore is employed as a marina.

The largest island is primarily concerned with industrial activities. It has two sides—one for goods and services, the other for personnel. Material function—manufacturing, shipping and transport—takes place at the eastern side on a "materials channel", and personnel activities—"office islands" recreation, etc. are located.
Along the western side on a "people channel" and a "park" element of the industrial park.

Linking the industrial island to the mainland and continuing westward over commerce are "residential bars." These consist of three stores of terraced dwelling units enclosing a skylit interior activities space for use during cold and inclement weather.

In the lowest level of the "bar" is vehicular access and parking for residence and terraced commerce. A pedestrian park and mall joins the channel and commerce, extending the entire length of the city.

The city center—city-county government and culture—is marked by its logical location near the urban geographic center, but also at the point of convergence of the largest of the minor valleys with the main valley, a bluff park and central observation lookout point. The center has a terraced parking structure of its own and commands the greatest water area of the "people channel".
WATER ELEMENTS HAVE BEEN CONCEIVED AS A LOGICAL SEQUENCE
OF CHANNELS DEVELOPING ACCORDING TO A HIERARCHY OF WATER
UTILIZATION. THE RIVER, OF COURSE, IS THE MAJOR WATER CHANNEL.
IT PROVIDES FOR INTERSTATE BARGE TRANSPORT AND PLEASURE CRAFT
 ROUTES AS WELL AS LOCAL WATER-ORIENTED ACTIVITIES. AS SUCH IT
IS THE LARGEST. INDUSTRY AND MARINA FACILITIES REQUIRE THE NEXT
LARGEST WATER CHANNEL. INDUSTRY REQUIRES DIRECT ACCESS TO RIVER
TRANSPORT AND LARGE DOCKING AND TURNING SPACES. LIKewise DO
PLEASURE CRAFT OF UNLIMITED SIZE. BOTH NEED DEEP WATER (10' MINIMUM)
TO FACILITATE EASY MANEUVERING. IT'S THE "MATERIAL CHANNEL" WITH
BARGE NEEDS PREDOMINATING.

A THIRD CHANNEL, NEAREST TO RESIDENCE, COMMERCIAL, AND
CIVIC CENTER—THE "PEOPLE CHANNEL"—SERVES AS A SMALL SCALE WATER
RECREATION ELEMENT. FOR SMALLER PLEASURE CRAFT, HAND-POWERED
CRAFT, FISHING, SWIMMING, AND PSYCHOLOGICAL APPRECIATION OF A WATER
ELEMENT BY THE PEDESTRIAN, LESS DEPTH AND WIDTH IS POSSIBLE FOR
THEIR OTHER ACTIVITIES AND SAFETY. (A DEPTH OF 2'-5' IS SUFFICIENT)
IN WINTER, THIS CHANNEL BECOMES A PROTECTED ICE SKATING RINK AL-
MOST THREE MILES IN LENGTH.

THUS A SEQUENCE OF THE WATER CHANNELS BECOMES MORE SHALLOW
AND NARROW AS THEY FUNCTION FOR GENERAL TRAFFIC, DOCK FACILITIES,
AND PLEASURE, AND PROGRESS AWAY FROM THE MAIN WATER ELEMENT, THE
RIVER.

159
ANOTHER ADVANTAGE OF THIS CONCEPT OF CHANNEL ARRANGEMENT IS PROTECTION FROM FLOODING. ONLY LOCAL ACTION IS FORESEEN AS A MEANS TO AVOID ITS RESULTS. IN DUBUQUE, 15¹ FLOOD OVER NORMAL RIVER STAGE IS LIKELY AT ANY TIME, ESPECIALLY IN THE SPRING AFTER NORTHERN SNOW THAWS. IF COMBINED WITH RAIN AT THE SAME TIME, A 20¹ FLOOD IS POSSIBLE. THUS PROTECTION MUST BE GIVEN EITHER BY VERTICAL SEPARATION BY LOCATION ABOVE MAXIMUM FLOOD STAGE OR HORIZONTAL SEPARATION BY A FLOODWALL OF MAXIMUM FLOOD STAGE HEIGHT.

THE CONCEPT COMBINES THESE DEVICES TO MAINTAIN AS CLOSE A RELATIONSHIP TO THE RIVER AS POSSIBLE AT ALL STAGES, AND A SAFETY FACTOR ALWAYS PRESENT TO COPE WITH THE UNEXPECTED. A FLOOD PLAIN ALONG THE INNER CHANNEL TO THE 15¹ FLOOD LEVEL ENABLES NORMAL ACTIVITIES AND RIVER ACCESS TO BE MAINTAINED TO THIS POINT. IN EVENT OF FURTHER RISE ONLY FLOOD GATES AT THE NORTH AND SOUTH ARE EMPLOYED TO MAINTAIN THIS WATER LEVEL, REGARDLESS OF EXTENT OF FLOODING. THE EAST SIDE OF THE INDUSTRIAL ISLAND, AT A LEVEL 30¹ ABOVE NORMAL STAGE, PROVIDES THE DIKE. THE PARK ISLAND, WITHOUT PERMANENT STRUCTURE EXCEPT AT ACCESS POINTS, IS ALLOWED TO FLOOD. INDUSTRY AND MAJOR MARINA MUST ALWAYS BE
ACCESSIBLE TO RIVER TRAFFIC INDEPENDENT OF FLOODING. THEY ARE FUNCTIONAL NEEDS. FOR INTRA-CITY BOATING AND APPRECIATION AS A WATER ELEMENT—PSYCHOLOGICAL NEED—ACCESS TO THE RIVER IS NOT CRITICAL.

IT IS BEST THAT THE SHORELINE OF THE RIVERFRONT REMAIN A CONTINUOUS LINE AS CURRENT THERE CAUSES TURBULENCE AND TENDS TO MAKE A BROKEN WATERLINE DIFFICULT TO CONSTRUCT AND MAINTAIN. AN UNDULATING ARTIFICIAL WATERLINE BECOMES MORE APPROPRIATE AS IT BECOMES MORE REMOVED FROM THE NATURALNESS OF THE RIVERSIDE AND THE FUNCTIONAL ASPECTS OF INDUSTRY. ALSO DOES LANDSCAPE.

THUS A NATURAL PARK ISLAND ADJACENT TO THE RIVER.

ALL RESIDENCE CANNOT BE DIRECTLY ON A WATER ELEMENT, YET BY PROVIDING AN AREA ADJACENT TO COMMERCE AND ANOTHER DIRECTLY ON THE RIVER AS PUBLIC SPACES ALL MAY APPRECIATE IT. AS PARKLAND THE ISLAND IS LEAST LIKELY TO BE DAMAGED BY FLOODING. (ALL CANNOT LIVE ON THE RIVER BUT ALL SHOULD HAVE THE OPPORTUNITY TO EXPERIENCE ITS AMENITIES.)

UP TOWN

ON THE BLUFFS AND HILLS ARE LOCATED THE MAJORITY OF RESIDENCE AND INSTITUTIONS. COLLEGES, HOSPITALS, SEMINARIES, GOLF COURSES, ETC. REMAIN AT THEIR PRESENT LOCATIONS. AGAIN, THE MAJOR RESIDENTIAL STRUCTURES ACCENT THE BLUFFS, AS A VERTICAL CONTINUATION
OF THEIR MAASESS TO ENCLOSETHE DOWNTOWN CORE. WESTERLY FROM
BLUFF RESIDENCE IS A LINEAR PARK AREA FOR THE UPTOWN, AND BEYOND
ARE SINGLE FAMILY, DUPLEX AND SMALL APARTMENT COMPLEXES OF PRESENT
DAY.

THREE KEY CITY PARKS ARE LOCATED AT THE NORTH, CENTER, AND
SOUTH OF THE CITY AND HAVE BEEN SO DESIGNATED BY THE EXTENT AND
VARYING QUALITY OF VISTAS THEY MAKE POSSIBLE. NORTH AND SOUTH
PARKS ARE ALSO TERMINAL POINTS OF A BLUFF-TOP TRANSIT SYSTEM.
THE CENTRAL PARK ON A PROMONATORY MARKS THE CIVIC CENTER AND
THE LARGEST OF THE MINOR VALLEYS.

THESE MINOR VALLEYS, WITHOUT VEHICULAR TRAFFIC ARE EMPLOYED
AS HIKING TRAILS AND RECREATION, AND AS THEY RETAIN SNOW COVER BY
THEIR EASTERN ORIENTATION AND SOUTHERN PROTECTION, AND SLOPE TO
PARKLAND AT THE FOOT OF THE BLUFFS, THEY BECOME ESPECIALLY WELL-
SUITED TO WINTER SPORTS.

CIRCULATION AND TRANSPORTATION

THE MOVEMENT OF GOODS AND PEOPLE PRESENT ONE OF THE LARGEST
PROBLEMS IN THE CITY. THIS CONCEPT ATTEMPTS TO SIMPLIFY THESE
SYSTEMS. AT THE SAME TIME, IT MAKES THOSE MODES WHICH ACCOMMODATE
PEOPLE MOVEMENT, INHABITANT AND TRANSIENT, TO BE CONSTANTLY AWARE
OF AND EXPERIENCING THE CITY AND ITS SETTING, WHILE THOSE OF
MATERIALS ARE REMOVED WITHIN BASE STRUCTURES WHICH THEY SERVE.

PRIMARY MEANS OF TRANSPORT ACCOMMODATED (INTRA-CITY AND INTER-CITY) ARE RAIL, AIR, AUTO, TRUCK, BUS, BOAT, A FORM OF RAPID TRANSIT, AND PEDESTRIAN. EACH HAS ITS OWN ROUTE, BASED ON THE TYPE OF SERVICE IT RENDERS.

ALL MODES OF TRANSPORTATION AND TRANSIENT-ACCOMMODATION CENTER. IT IS LOCATED AT THE CONVERGENCE OF THE MAJOR HIGHWAYS AND RAILWAY AS THE MAJORITY OF NEW ARRIVALS COME BY THESE MEANS.

THE AIRPORT, REMOVED 7 MILES TO THE SOUTH EMPLOYS AUTO-BUS TRANSPORT TO THE CENTER, THOUGH HELIOPORT FACILITIES ARE PROVIDED ON THE ROOF TERRACE OF THE CENTER. IT IS WITHIN THE SINGLE STRUCTURE THAT ALL MODES HAVE THEIR CITY TERMINALS AND WHICH PROVIDE ALL ACCOMMODATIONS FOR THE TRAVELER OR VISITOR. THOSE ARRIVING BY THE RIVER IN PLEASURE CRAFT ENTER DIRECTLY UNDER THE STRUCTURE AND MOOR THERE; THE RAILWAY ENTERS AT THE NEXT LEVEL. ABOVE THESE IS THE HIGHWAY (BRIDGE) FROM WHICH AUTOS AND BUSES ENTER. IT IS PRIMARILY A PARKING AND GENERAL FACILITIES LEVEL. NEXT ARE THREE STORIES OF MOTOR LODGE UNITS, THOSE ON THE EXTERIOR TERRACED
AND FRONTING A DECK ABOVE THE PARKING WITH THE CITY BEYOND, THOSE
ON THE INTERIOR FACING THE ACTIVITY WITHIN. ABOVE ALL IS THE OBSERVATION
DECK, RESTAURANT, HELIPORT, ETC. THE CENTER PROVIDES APPROXIMATELY
1200 LODGE UNITS. (ONE UNIT PER HUNDRED POPULATION IS RECOMMENDED;
SOURCE: DUBUQUE DEVELOPMENT PROGRAM, 1965, VICTOR GRUEN ASSOCIATES.)

NORTH-SOUTH AND EAST-WEST HIGHWAYS BOTH RUN THROUGH THE CITY.
AT THEIR INTERSECTION, AUTO AND TRUCK MODES SEPARATE FOR INTRA-
CITY TRAFFIC. THE AUTO GAINS ACCESS TO THE COMMERCIAL AND
DOWNTOWN RESIDENCE FROM THE ELEVATED ROADWAY TO THE WEST. INSIDE
LANES ARE RESERVED FOR THRU TRAFFIC, OUTSIDE FOR LOCAL TRAFFIC INTO
THE "RESIDENTIAL BARS". THIS ROADWAY AFFORDS A GRASPING OF THE
OVERALL CITY IMAGE: THE BLUFFS AND DOWNTOWN. LINEAR BAR AND
TOWER STRUCTURES OF THE VALLEY, PERPENDICULAR TO TRAVEL, AND
TERRACED COMMERCIAL; REDUCES OBSTRUCTION TO VIEW INTO THE
DOWNTOWN "PEOPLE CHANNEL" AND BLUFFS ON THE FAR SIDE OF THE RIVER.
SPACE UNDER THE ROADWAY BECOMES A CONTINUOUS SHELTER ALONG THE
ENTIRE PARK AREA AND LINKS THE BLUFFS TO THE RESIDENCE AND COMMERCIAL,

VEHICULAR CONTACT BETWEEN UPTOWN AND DOWNTOWN IS BY A LIMITED
NUMBER OF ARTERIAL STREETS THROUGH MINOR VALLEYS. BLUFFTOP RESIDENCE HAS ITS VEHICULAR CONNECTION TO THIS UPTOWN SYSTEM. VEHICLE ACCESS TO THE RIVER FRONT ISLAND IS AT THE TRANSPORTATION CENTER.

COMMERCIAL TRUCK SERVICE EXTENDS WITHIN THE STRUCTURE ALONG THE WESTERN SIDE WHERE WAREHOUSE FACILITIES ARE LOCATED. VEHICULAR ACCESS TO INDUSTRY PARALLELS RAILWAYS AND BARGE FACILITIES ALONG THE "MATERIALS CHANNEL".

A FORM OF RAPID TRANSIT LINKS THE ENTIRE CITY STRUCTURE TOGETHER AND IS INTENDED AS THE MOST ENJOYABLE MEANS OF MOVEMENT OVER LARGE DISTANCES. TWO NORTH-SOUTH LINES DOMINATE, ONE THROUGH THE TOWERS AND OVER THE "BARS" OF THE DOWNTOWN, THE OTHER ALONG THE BLUFF TOP. (AN UNDERGROUND SYSTEM IGNORES ORIENTATION AND VISUAL EXPERIENCE ASPECTS) PERPENDICULAR TO THESE AND EXTENDING FROM THE EAST RIVER PARK, THROUGH PARK STRIPS IN INDUSTRY, NODAL TOWERS, BLUFFTOP RESIDENCE, TO WESTERN RESIDENCE ARE EAST-WEST LINES.
THE CENTRAL AREA OF THE CITY, ON THE "PEOPLE CHANNEL" IS RESERVED EXCLUSIVELY FOR PEDESTRIAN CIRCULATION AS ARE UPPER SURFACES OF ALL DOWNTOWN COMMERCIAL AND RESIDENTIAL STRUCTURES. SMALL SHUTTLE OR PADDLE BOATS ARE PROPOSED AS AN ADDITIONAL DOWNTOWN CIRCULATION MODE IN THIS AREA.

SUCH A CITY FROM IT POSSIBLE AND, AS A COMPOSITION OF ARTIFICIAL ELEMENTS TO MAINTAIN RECOGNITION OF THE TOPOGRAPHIC ELEMENTS IN FACE OF GROWTH, IS MANDATORY. IT COULD BE INITIATED AT ONCE AND DEVELOPED IN PROGRESSIVE STAGES.
schematic plan

River or channel
Civic center
Transport & transient center
Park land
Observation park
Observation point
Residence
Commerce
Industry
Highway
Railway
DATA——

RESIDENCE

BLUFF TOWER
(40 UNITS) (10 FLOORS) (6 APPTS./FLOOR) (3.5 PERSONS/APT.) = 8400

BLUFF TERRACE
(18000 LF/30' WIDTH) (3 FLOORS) (3.5 PERSONS/APT.) = 6300

DOWNTOWN TOWER
(6 UNITS) (15 FLOORS) (8 APPTS/FLOOR) (3.5 PERSONS/APT.) = 2520

DOWNTOWN TERRACE
(45,000 LF/30' WIDTH) (3 FLOORS) (2 SIDES) (3.5 PERSONS/APT.) = 36,400

TOTAL DOWNTOWN AND BLUFF RESIDENCE

EXISTING POPULATION—THIS AREA
16000

TOTAL UPTOWN—SINGLE FAMILY, DUPLEX, TOWN HOUSE, ETC.
56,000

TOTAL CITY

COMMERCIAL (INCLUDES WAREHOUSE, CIRCULATION, SCHOOLS, AND FACILITIES)
(200' WIDTH) (13,750' LENGTH) (2 LEVELS)
19,250,000

OFFICE (INCLUDES CITY-COUNTY CENTER AND GOVT. OFFICES)
(10 TOWERS) (120' X 60') (15 FLOORS)
1,080,000

INDUSTRIAL (MANUFACTURE, WAREHOUSE, AND CIRCULATION)
(1200' WIDTH) (10,800' LENGTH) (3 LEVELS)
38,880,000

INDUSTRIAL OFFICE
(9 UNITS) (100' WIDTH) (100' LENGTH) (4 LEVELS)
360,000

167
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