

LECTURER: HOWARD DAVIS.

LECTURE ON HOW PATTERNS WERE DISCOVERED. SCIENTIFICALLY.

RESULT: A PATTERN LANGUAGE OF GOOD PATTERNS.

→ A SCIENTIFIC DISCOVERY. IT IS A SCIENTIFIC PROCESS TO DISCOVER THE RIGHT PATTERNS.

THE QUESTION FOR EVERY ARCHITECT ABOUT HIS OWN PATTERN LANGUAGE.

SLIDE: TOWER BLDGS - HOUSING. WON AWARD IN THE 50's

→ TORN DOWN IN THE 70's BECAUSE OF CRIME, DISREPAIR.

→ MOST BUILDINGS ARE DISCUSSED IN A WAY WHICH LACKS CRITICISM - IN TERMS OF SUCCESS, SOCIALLY, ETC...

AS A RESULT OF NOT REPORTING FAILURE (IN MAGAZINES...) A GREAT DISADVANTAGE IS DONE TO ARCHITECTURE.

→ WHAT IS THE MECHANISM BY WHICH INFORMATION COULD BE USED BY ARCHITECTS.
→ HOW CAN FAILURES BE USEFUL FOR THE CREATION OF BETTER ENVIRONMENTS.

→ HOW ARE PATTERNS DISCOVERED. (NOT INVENTED)
BECAUSE THE ASSUMPTION IS THAT IN A HEALTHY SITUATION THESE PATTERNS ALREADY EXIST
AND ONE ONLY NEEDS TO DISCOVER THEM.

THIS PUTS THE ARCHITECT IN A POSITION OF THE SCIENTIST WHO IS TRYING TO FIND OUT WHAT THE WORLD IS MADE OF.

- 1 → WHAT ARE THINGS WHICH CONTROL IT
- 2 → WHAT " THE GENERAL LAWS ABOUT ITS EXISTENCE
- 3 → AND THINGS THAT COULD BE USED TO PREDICT ITS BEHAVIOUR IN THE FUTURE.

THE DISCOVERY OF ~~SCIENTIFIC~~ PATTERNS IS NOT DIFFERENT FROM DISCOVERING PATTERNS.

THREE POINTS ABOUT SCIENTIFIC DISCOVERY:

1. HYPOTHESIS ABOUT THE OVERALL STRUCTURE OF THE WORLD ARE MADE. NOT ALL THE FACTS NEEDING IT TO UNDERSTAND COMPLETELY WHAT THE HYPOTHESIS IS, BUT THE FEELING OF THE STRUCTURE MIGHT HELP TO KNOW A FEW FACTS.

EXAMPLE: in the 19th century, the structure of atoms was not fully known. Did not know the Periodic Table. ONLY 30 or 40 elements were known.

Mendeleev - Discovered that there was a pattern which these elements fell into. (A certain weight, a certain behaviour.)

He predicted that newer elements could be fit into the table.

2. TESTING THE HYPOTHESIS

EXAMPLE: After Periodic Table - experiments were made to see whether ~~the~~ ~~new~~ elements fit ~~the~~ in the table.

3. THE FIRST BIT OF DATA WHICH SCIENTISTS GET IS VERY ROUGH, INEXACT. OVER THE YEARS IT BECOMES MORE EXACT AND PRECISE.

~~THIS~~ IN TERMS OF THE ENVIRONMENT THIS IS WHAT DONE IN ARCHITECTURE.

IN TERMS OF SCALES, THERE ARE VARIOUS LEVELS. EXAMPLE:

- SUBATOMIC PHYSICS.
- BIOLOGY.
- ECOLOGY.
- REGIONAL GEOGRAPHY.
- ASTRONOMY.
- COSMOLOGY.

OUR LACK OF LOOKING AT IMMEDIATE ENVIRONMENT IS A GAP IN SCIENTIFIC ~~THE~~ STUDIES. LOOKING AT TABLES, CHAIRS, HOUSES.

IN TERMS OF SCALE + VARIETY - IT IS A GAP IN OUR KNOWLEDGE ABOUT THE WORLD AND IS QUITE A LEGITIMATE THING TO DO.

IN TERMS OF KNOWING WHAT ARE GOOD THINGS AND TO BE ABLE TO REPRODUCE THEM -

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AND TO RECOGNIZE FAILURES AND TO LEARN FROM THEM.

IN A SENSE THEN IT IS A PROBLEM OF KNOWING HOW TO USE INFORMATION IN ARCHITECTURE

→ WHAT IS GOOD + WHAT IS BAD ←

◆ THERE IS A DIFFERENCE BETWEEN THE SCALE OF INVESTIGATION OF THE EVERYDAY THINGS AND OTHER SCALES OF SCIENCES;

→ IT IS OUR FEELINGS WHICH COME INTO PLAY.

◆ WE CAN BE DETACHED FROM ATOMS AND ASTRONOMY. TWO DIFFERENT SCALES.

THUS THE CRITERIAS AND EVALUATIONS HAS TO TAKE FEELING INTO ACCOUNT.

2 QUESTIONS ASKED:

1. HOW HIGH SHOULD BUILDINGS BE?
2. HOW DO YOU DESIGN A GOOD HIGH BUILDING?

THE SECOND QUESTION NOT LEGITIMATE IN TERMS OF FINDING OUT WHAT THE REAL STRUCTURE THE GOOD STRUCTURE IS...

THIS COULD LEAD TO MANY QUESTIONS...

BUT IF THERE IS EVIDENCE THAT HIGH BUILDINGS ARE NO GOOD.

→ AS SOMEONE WHO WILL HELP TO SHAPE THE ENVIRONMENT ONE WANTS TO KNOW THINGS ABOUT THE STRUCTURE OF THE WORLD.

◆ ~~THE~~ HIGH BLDGS. ARE NO GOOD - AFTER STUDIES BY VARIOUS SCIENTISTS, DISCOVERED A PATTERN OF A MAXIMUM OF 4 STORIES.

◆ OTHER WAYS:

- BY ASKING ABOUT A CERTAIN SPECIFIC THING.
EXAMPLE: THE HEIGHT OF A WINDOW SILL.
ASKED MANY PEOPLE WITH A PEICE OF CARDBOARD WHAT IS THE MOST COMFORTABLE HEIGHT.

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→ THROUGH DIRECT EMPIRICAL METHOD.

◇ ANOTHER WAY - BY OBSERVING THE USE OF CERTAIN ENVIRONMENTS.

EXAMPLE: ASK PEOPLE IF THEY USE A PARK IF IT IS FARTHER THAN 3 MINS. WALK PEOPLE TEND NOT TO USE IT.

◇ LOOKING AT THE ENVIRONMENT ITSELF. WHICH PARTS ARE BEING USED, WHICH ARE NOT.

EXAMPLE: WHICH OUTDOOR SPACES, WERE BEING USED. 18 OUT OF 20 WERE SOUTH FACING OUTDOORS.

① → OVERALL STRUCTURE WAS BEING DISCOVERED.

~~ONLY~~ / THAT THERE EXISTS PATTERNS WHICH COULD BE TESTED

② → EACH PATTERN IS A SCIENTIFIC HYPOTHESIS. IT IS SAYING THAT IF THE PHYSICAL ORDER OF THE WORLD IS ARRANGED IN A CERTAIN WAY → IT WILL RESULT IN A CERTAIN QUALITY.

THE WHOLE IDEA IS A HYPOTHESIS AS WELL...
(PATTERN LANGUAGE)

THE DATA IS BEING USED AS HYPOTHESIS AND FOR PROOF FOR OR AGAINST THAT HYPOTHESIS.

THE OTHER TEST OF THE HYPOTHESIS IS FEELING. WHETHER A PLACE ALLOWS THAT FEELING TO EXIST OR NOT.

◇ BOTH ARE EQUALLY NECESSARY IN DETERMINING THE VALIDITY OF A PATTERN. ◇

THIS IS HOW PATTERNS ARE MADE...
BOTH SCIENCE + FEELING IN A COHERENT WAY.

IN A PARTICULAR BLDG. * SPECIAL PATTERNS ARE NEEDED.

EXAMPLE: A SCHOOL WITH NEW IDEAS ABOUT THE TEACHING METHODS.

→ WHAT WERE THE OVERALL ORGANIZATION OF THE SPACE. WHAT IS ~~THE~~ A TYPICAL DAY LIKE.

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◇ THE QUESTIONS LED TO DISCUSSIONS. BY THE
END OF THE WEEK A PATTERN LANGUAGE CAME
OUT.

→ THIS PROCESS OF DISCOVERING THE PATTERN
LANGUAGE IT FORCED THEM TO DISCOVER
WHAT WAS THE SCHOOL LIKE.

→ BECAUSE THERE IS A SOCIAL + PHYSICAL THING
HELPS TO DEFINE A CLEAR PICTURE OF THE
SPACE.

→ ANALOGY OF PERIODIC TABLE AND PATTERN
LANGUAGE.

THIS WAY LEADS TO INVESTIGATION. IN TRYING
TO FIT THINGS IN SLOTS.

A SIMILAR THING HAPPENED IN PATTERN LANGUAGE.
A PATTERN LED TO SMALLER OR CONNECTED
PATTERNS. EXAMPLE: OUTDOOR SPACE LED TO
SMALLER PATTERNS.



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MEXICALI PROJECT

- AFTER THE MODESTO PROJECT THEY REALIZED THE SIGNIFICANCE OF THE PRODUCTION PROCESS.

- HARD TO FIND PLACES TO TEST THESE IDEAS, BECAUSE THE FORM OF PRODUCTION PREVENTS THESE KINDS OF ~~THE~~ CHANGES.

QUESTIONS OF POLITICAL, ECONOMICAL AND SOCIAL ISSUES RELATING TO THE PROFESSION.

PROJECT:

◆ ~~THE~~ WOULD BUILD HOUSES FOR \$35,000 each WHEREBY PEOPLE WILL DESIGN + CONSTRUCT THEIR OWN HOUSES.

→ BUILDERS YARD: NUCLEUS OF PRODUCTION.

• BUILDINGS WERE STAKED OUT ON THE GROUND.

• CONSTRUCTION PROCEEDS DIRECTLY.

• BUILDING PROCESS COMPLETELY THEIR RESPONSIBILITY.

• FUNDS DIRECTLY TO BUILDING-PROJECT.

• NO DRAWINGS REQUIRED.

• THEY WERE CONTRACTORS, ARCHITECTS, BUILDERS.

→ SOIL HAD HIGH % OF CLAY.

SOIL - CEMENT BLOCKS. SELF STACKING WALL BLOCK WITH TONGUES - SUCH THAT FAMILIES COULD BUILD THEIR OWN HOUSES. TO HELP THE CONSTRUCTION PROCESS TO OCCUR EASIER.

→ USED A SPECIAL MACHINE FOR THE BLOCKS.

→ ROOF WAS BUILT OVER WOOD LATTICE AND BURLAP.

→ FOUNDATIONS AT THE EXACT SPOTS OF THE STAKES.

⇒ THE PROCESS WAS TO EASE THE PRODUCTION OF HOUSES BY THE PEOPLE THEMSELVES.

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→ WAS NOT CLEAR WHETHER THEY SHOULD HAVE BEEN THE MANUFACTURERS.

→ ~~THE~~ TRIED TO FIND BAMBOO INSTEAD OF IRON RODS.

→ PALM FRONCS: DID NOT WORK BECAUSE THE SWELLED & CONTRACTED AND CRACKED THE WALL.

STAKING:

1. LAY OUT OF CLUSTERS,
DEFINING LOTS, COMMON LANDS, ENTRANCES
PATHS ETC...

→ BUILDING SYSTEMS WERE STRUCTURALLY SOUND AND APPROVED BY BUILDING DEPT

→ FLOORS PAINTED WITH RED OXIDE POWDER

THE REASON FOR HAVING ARCHITECT AS THE BUILDER:

- DECISIONS WERE BEING MADE AT EVERY STEP OF THE WAY VERY ESSENTIAL FOR PEOPLE TO SEE THE PARTS SLOWLY COME INTO THE WHOLE...

THE HUMAN PROCESS COMPLETELY DIFFERENT IN FEELING AND SPIRIT OF PEOPLE ENTERING INTO THE PROCESS...

→ GIVEN THE LEVEL OF REORGANIZATION THIS SORT OF THING CAN HAPPEN...

