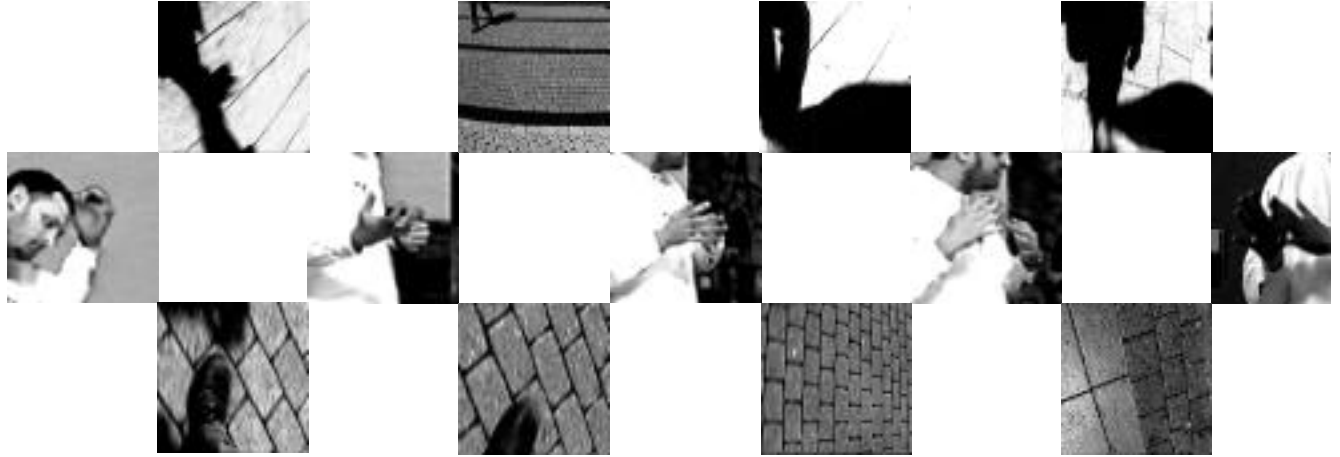


SHOWS HOW SYSTEMS ARE GENERATED WITHIN PLYMOUTH CITY CENTRE... I HAVE REMOVED ALL



AN INVESTIGATION OF THE INTERACTION BETWEEN "REAL" SPACE & COMPUTER INTERACTION AND ARCHITECTURE GENERATED FROM VIRTUAL REALITY.

## "OBJECTIVE" AND "SUBJECTIVE" VIRTUAL REALITIES...

C U L V E R E P S  
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ONE OF THE MAJOR PROBLEMS CONFRONTED BY ARCHITECTURE IS ITS INTEGRATION INTO THE INFORMATION AGE. STUCK IN THE RIGMAROLE OF ARCHITECTURAL HISTORY AND THE NEED TO CATEGORIZE EVERYTHING INTO TIME ORIENTATED CRITERIA, IT SEEMS STRANGE THAT THE ENGAGEMENT OF ARCHITECTURE AND THE ABILITY TO CREATE SPACE WHICH TRANSCENDS TIME IS NOT TAKEN MORE SERIOUSLY. MARCOS NOVAK, PROFESSOR OF ARCHITECTURE AT AUSTIN, TEXAS HAS WRITTEN MANY PAPERS ON THE EFFECT OF VIRTUAL REALITY SYSTEMS AND THE DEVELOPMENT OF SPACETIME ARCHITECTURE. ONE OF THE MAJOR CRITERIA IN HIS WORK IS THE CONNECTION BETWEEN ARCHITECTURE AND MUSIC, ARCHITECTURE BEING THE EMBODIMENT OF SPACE AND MUSIC THE EMBODIMENT OF TIME. NOW WE EXIST IN A POST-EUCLIDEAN WORLD AND, AS A CONSEQUENCE OF RELATIVITY, NOVAK SEES THE DEVELOPMENT AND INTEGRATION OF TIME IN ARCHITECTURE AS OF THE UTMOST IMPORTANCE. NOVAK'S CONCERNS MAINLY LIE IN THE CONNECTION BETWEEN OUR ABILITY TO EXPRESS OUR OWN ARCHITECTURAL DOMAIN THROUGH COMPUTER DISTRIBUTION AND THE EFFECTS THIS MAY HAVE IN OUR MORE LOCAL ARCHITECTURES.



GS... THE BOTTOM LAYER IS JUST HOW PEOPLE MOVE... THERE ARE THE INTERFERENCE POINTS...

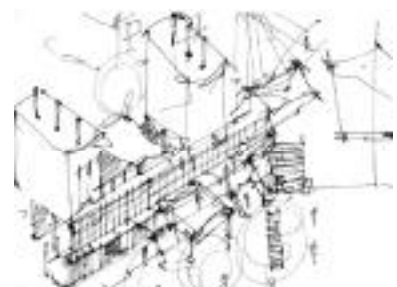
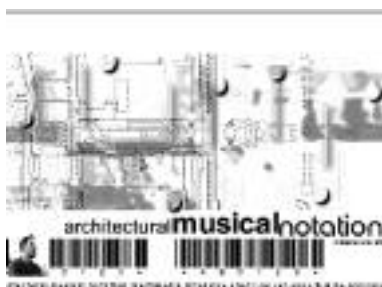


"IN THIS EFFORT TO EXTEND OUR RANGE AND PRESENCE TO NONLOCAL REALITIES, ARCHITECTURE HAS BEEN A BYSTANDER, AT MOST HOUSING THE EQUIPMENT THAT ENABLE US TO EXTEND OUR PRESENCE. THE TECHNOLOGIES THAT WOULD ALLOW THE DISTRIBUTION OR TRANSMISSION OF SPACE AND PLACE HAVE BEEN UNIMAGINABLE, UNTIL NOW. THOUGH WE LEARN ABOUT MUCH OF THE WORLD FROM THE MEDIA, ESPECIALLY CINEMA AND TELEVISION, WHAT THEY PROVIDE IS ONLY A PASSIVE IMAGE OF PLACE, LACKING THE INHERENT FREEDOM OF ACTION THAT CHARACTERIZES REALITY, AND IMPOSING A SINGLE NARRATIVE THREAD UPON WHAT IS NORMALLY AN OPEN FIELD OF SPATIAL OPPORTUNITY. HOWEVER, NOW THAT THE CINEMATIC IMAGE HAS BECOME HABITABLE AND INTERACTIVE, THAT BOUNDARY HAS BEEN CROSSED IRREVOCABLY. NOT ONLY HAVE WE CREATED THE CONDITIONS FOR VIRTUAL COMMUNITY WITHIN A NONLOCAL ELECTRONIC PUBLIC REALM, BUT WE ARE NOW ABLE TO EXERCISE THE MOST RADICAL GESTURE: DISTRIBUTING SPACE AND PLACE, TRANSMITTING ARCHITECTURE." MARCOS NOVAK - TRANSMITTING ARCHITECTURE.

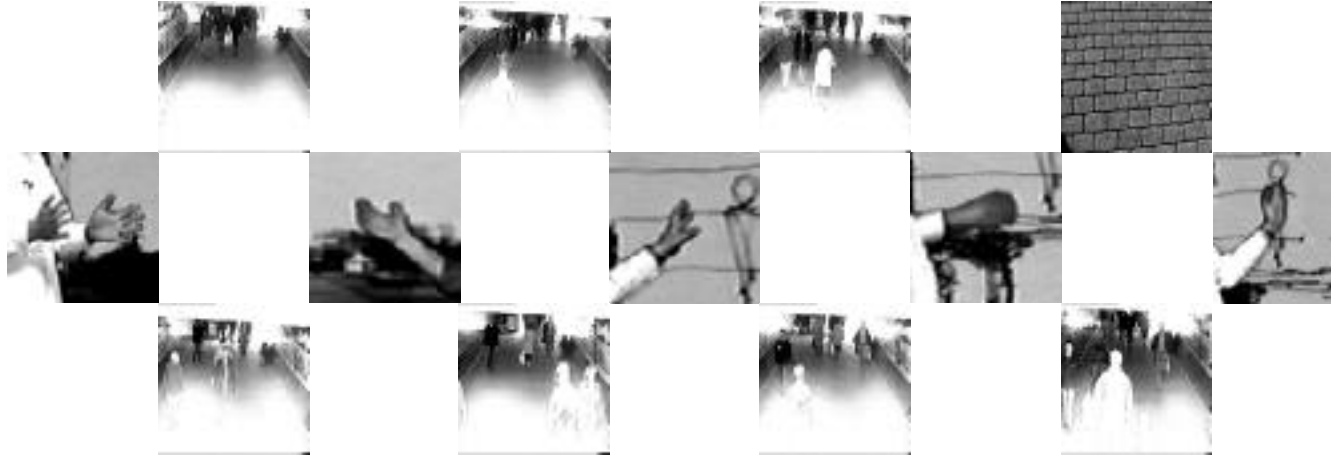


ONE OF THE MAIN STUMBLING BLOCKS IN NOVAK'S WORK IS THE ABILITY TO ACCEPT THAT THE GENERATION OF A COMPUTER BASED ARCHITECTURAL SPACE IS WORTHY OF THE TERM ARCHITECTURE AS WE KNOW IT. MANY OF US BELIEVE ARCHITECTURE TO LIE IN THE BUILT FORM, SOME BUILDINGS CONTAIN "ARCHITECTURE", SOME CONTAIN NOTHING MORE THAN THE WALLS, THE FLOOR AND SHELTER. HOW CAN WE DISTINGUISH BETWEEN THIS FORM AND ANOTHER? JUST AS WE CAN DETERMINE WITHIN OUR LOCAL REALITIES WHAT IS "ARCHITECTURE" AND WHAT IS NOT, NOVAK CHALLENGES THE BASIS THAT "ARCHITECTURE" LIES IN ITS THEORY AND PROCESS NOT NECESSARILY ITS OUTCOME, THAT "ARCHITECTURE" IS MORE OF A GENERATIVE PROCESS AND THAT THE FRAMEWORK IS THE ONLY THING AN ARCHITECT CAN BRING TO A SCHEME.

"THE ARCHITECTURE OF CYBERSPACE OFFERS THE OPPORTUNITY TO MEND THE RUPTURE BETWEEN HOW WE KNOW THE WORLD AND HOW WE CONCEIVE AND EXECUTE ARCHITECTURE. IT ALLOWS A FAR GREATER LATITUDE OF EXPERIMENTATION THAN ANY PREVIOUS ARCHITECTONIC OPPORTUNITY. IT IS ONCE AGAIN POSSIBLE TO SEEK TO KNOW WHAT IS KNOWN AND TO CONCEIVE A CORRESPONDING ARCHITECTURE, WITHOUT ALWAYS FALLING BACK UPON THE SACRED GEOMETRIES OF AGES PAST. THIS ENGAGEMENT ONLY MAKES ARCHITECTURE MORE RELEVANT TO THE WORLD, MORE IN KEEPING WITH WHAT IS SENSED AS A NEW CONDITION. IN FACT, ARCHITECTURE'S ROLE IN ARTICULATING SPATIALLY THE OUTLOOK OF AN AGE IS STRONGLY REASSERTED." MARCOS NOVAK - TRANSMITTING ARCHITECTURE.



WHICH ARE STARTING TO GENERATE THE THINGS I WANT TO LOOK AT... THERE ARE THREE PARTS: 1

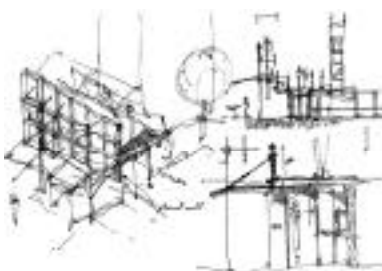


THE PROBLEM WITH THE THEORIES OF NOVAK IS THAT HE HOLDS HIS IDEAS OF ARCHITECTURE SOLELY IN THE REALMS OF WHAT IS VIRTUAL, NEVER REALLY EXPRESSING THIS IN ANY FORM OF REALITY. THIS IS MAINLY DUE TO THE PROCESS OF ARCHITECTURE IN WHICH HE FINDS HIMSELF, ARCHITECTURE OF THE VIRTUAL IS GENERATED BY MATHEMATICAL PROCESSES INSTEAD OF THE PROCESSES OF THE NORMAL ARCHITECTURAL REALITY, NAMELY "STICKS AND STONES".

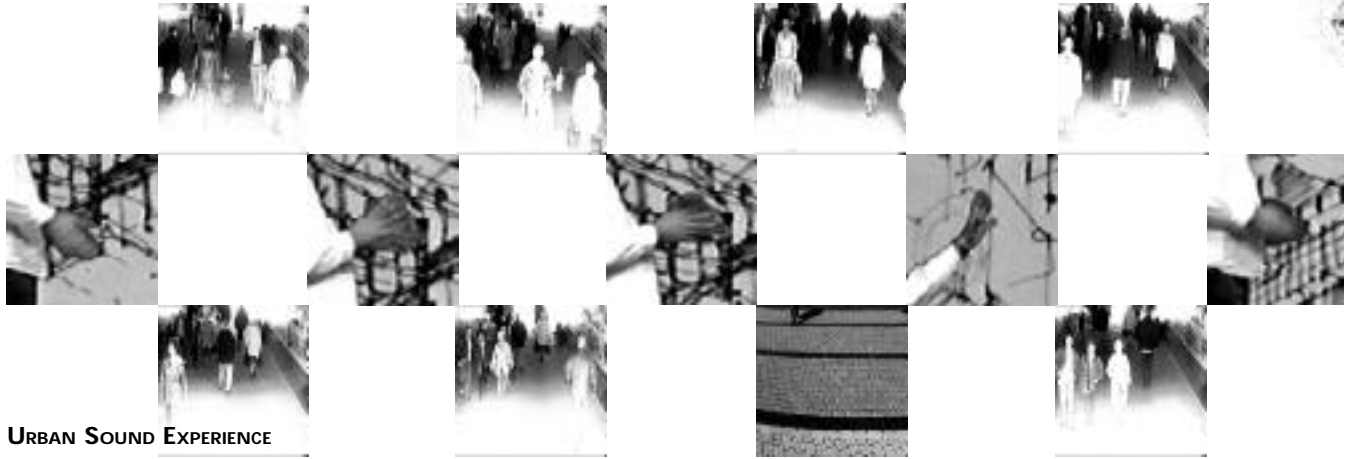
...THIS IS THE BASIS OF THE PROJECT...



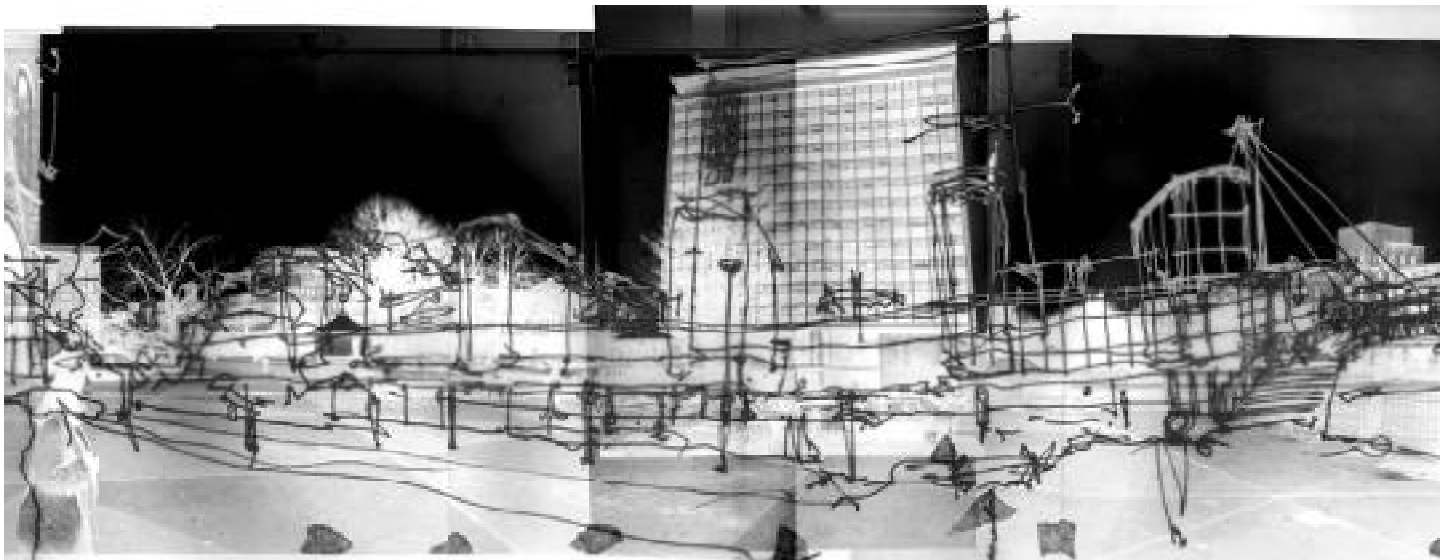
THE TWO FORMS OF ARCHITECTURE MUST BECOME INTERTWINED BEFORE YOU CAN ACCEPT THE VIRTUAL ARCHITECTURAL IDEOLOGY AS ACCEPTABLE, AND ALSO THE EXPERIENCE OF SUCH SPACE COMES BEFORE EXPRESSING AN INFORMED IDEA OF IT. THIS INVOLVES THE UNDERSTANDING THAT ARCHITECTURE AND LIFE ITSELF EXISTS IN A FORM OF VIRTUAL REALITY. EACH ONE OF US EXISTS IN A VIRTUAL REALITY WHICH IS UNIQUE, FOR IT IS OUR ABILITY TO INTERPRET RAW DATA AND INFORMATION INTO SIGHT AND SOUND AND COMMUNICATE THOSE EXPERIENCES WHICH HELP FORM OUR IDEAS OF SPACE AND PLACE. THIS I HAVE TERMED OUR "OBJECTIVE" VIRTUAL REALITY. THEN THERE IS THE VIRTUAL REALITY WHICH WE HAVE SEEN THROUGH OTHER MEDIA FOR THE PAST TEN YEARS OR SO: COMPUTER GENERATED SPACES AND STRUCTURES. ARCHITECTURAL IDEAS WHICH, TO THE PRAGMATIC "OBJECTIVE" VIRTUAL REALITY MIND HAVE NO PLACE OR SPACE AS WE CANNOT COMMUNICATE THEM THROUGH A SPECIFIC OF LANGUAGE. YET IT IS THIS NON-LOCAL SPACE, AS NOVAK TERMS IT, WHICH TRANSCENDS LANGUAGE AND REINFORCES THE SPACES WHICH WE ALREADY KNOW. THIS I HAVE TERMED "SUBJECTIVE" VIRTUAL REALITY. IT IS THESE "VIRTUAL" REALITIES WHICH ARE THE BASIS OF THIS THESIS. THAT THE JUXTAPOSITION BETWEEN THE TWO IS NOT A KEYBOARD OR A COMPUTER MONITOR OR A LEAP OF THEORETICAL FAITH, BUT MORE AN ACCEPTANCE THAT THIS IS JUST ANOTHER TECHNICAL DEVELOPMENT OF "ARCHITECTURE".



... THE VISUAL... THE AURAL...WE EACH HAVE A DIFFERENT PHYSICAL PRESENCE WITHIN SPACE...

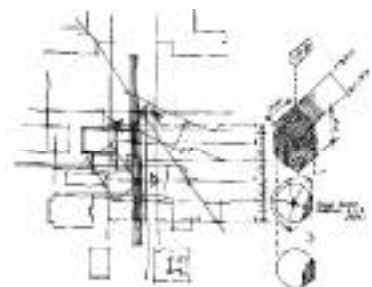
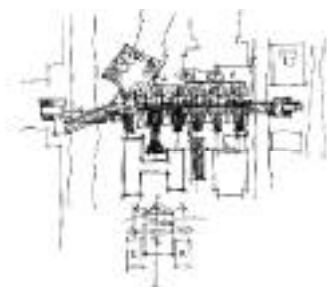


EACH MEMBER OF SOCIETY EXPERIENCES A PLACE THROUGH MANY DIFFERENT MEDIA, AND THE BRAIN CREATES INFORMATION OF AURAL, VISUAL AND TACTILE EXPERIENCE TO CREATE MAPS OF SPACES. SOME OF THESE SPACES PLEASE OUR EYES, SOME OUR EARS AND SOME OUR TOUCH. IT IS THESE EXPERIENCES WHICH LEAD US TO COMMUNICATE HOW WE FEEL ABOUT SOMETHING ...IT SMELT HORRIBLE...IT LOOKED NICE...I LIKED THE FEEL OF IT... ALL THESE ADJECTIVES LIE IN THE ABILITY OF OUR BRAIN TO COMMUNICATE OUR "OBJECTIVE" VIRTUAL SPACE. MARCOS NOVAK CONSIDERS THIS AN EMBODIMENT OF SPACE, WE ONLY EXPERIENCE WHAT WE KNOW IN THE REALM OF WHAT WE CONSIDER NORMAL, THE ABNORMAL IS THEREFORE BEYOND REASON AND CANNOT BE EXPERIENCED TO THE LEVEL THAT IT CAN BE COMMUNICATED. TO NOVAK THE COMMUNICATION CAN COME THROUGH MUSIC; JUST AS "SUBJECTIVE" VIRTUAL SPACE CAN TRANSCEND LANGUAGE SO MUSIC CAN CREATE THE LINK NECESSARY TO THE "OBJECTIVE". EACH OF US CONSIDERS BEAUTY IN DIFFERING SOUND [OPERA, JUNGLE, HARDFLOOR, THRASH, CLASSICAL] BUT RUDIMENTARIES EXIST WITHIN ALL THE STRUCTURES OF MUSIC.

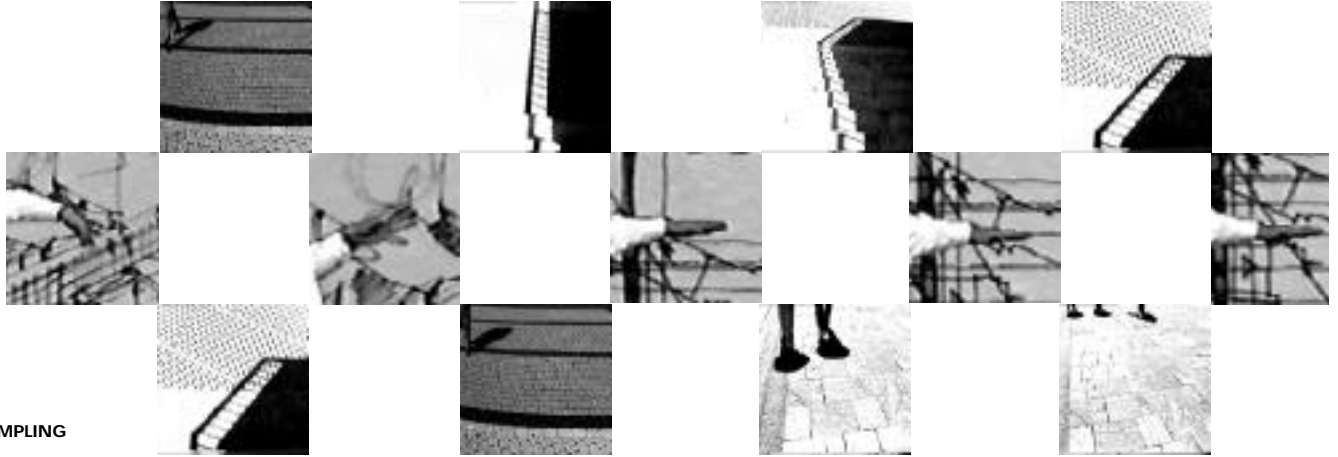


EACH PLACE IS DIFFERENT AND CAN BE COMPARED TO ANOTHER THROUGH SOUND, VISUAL AND A TACTILE NATURE. THIS PROJECT IS CONCERNED WITH THE SOUND PROCESSES OF SPACE, AND AIMS...

- (A) TO CONSOLIDATE THE "SUBJECTIVE" AND "OBJECTIVE" SPACES
- (B) TO GENERATE AN ARCHITECTURE WHICH IS TRUE TO THE SPACE IN WHICH IT IS CREATED
- (C) TO DEVELOP AN ARCHITECTURE WHICH EVOLVES WITH, AND IS THEREFORE A PRODUCT OF, TIME

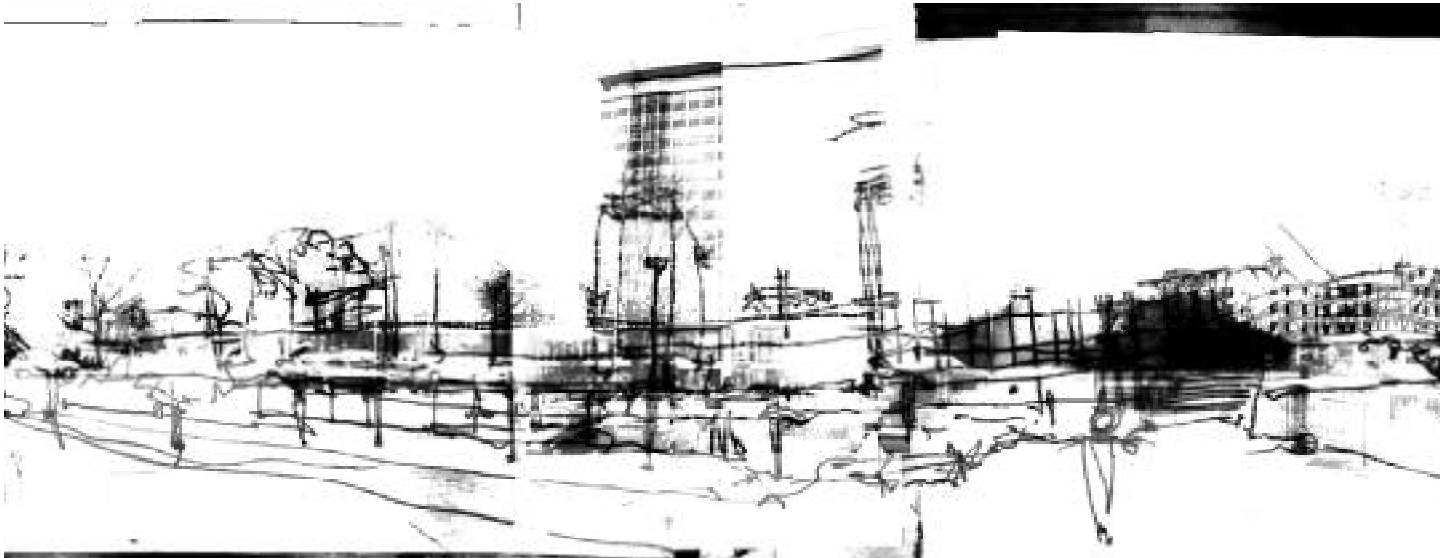


WHEN YOU ARE IN A ROOM ON YOUR OWN... AS SOON AS SOME ONE COMES IN, THE WHOLE I



## SAMPLING

SOUND IS EVERYWHERE: NO MATTER WHERE YOU ARE SOUND ENVELOPS AND DEFINES OUR SPACES. FROM A HUGE AUDITORIUM DESIGNED FOR PERFECT REPRODUCTION OF SOUND, TO THE STREETS IN WHICH WE SHOP, SOUND HELPS US DEFINE OUR EXPERIENCES AND REINFORCE OUR "OBJECTIVE" VIRTUAL SYSTEM. IF YOU WERE ABLE THEREFORE TO MAP THIS SOUND IN A FORMAL SENSE AND USE THIS TO GENERATE ANOTHER SEQUENCE OF EVENTS FROM A "SUBJECTIVE" VIRTUAL SYSTEM, THERE WOULD BE A JUXTAPOSITION AND A BASIS FOR EXPLORATION. MOVEMENT THROUGH ANTE SPACE DEFINES ROUTES OF LEAST RESISTANCE AND THE EFFECTS DIFFERING BUILDING TYPES HAVE ON THE POPULOUS AT LARGE. THEREFORE, ASSUMPTIONS CAN BE MADE ON THE POSITION AND REASON FOR POINTS OF INTERFERENCE. BY USING THE TERM INTERFERENCE, IT IS IMPLIED THAT NODAL POINTS WITHIN THE PUBLIC REALM EXIST AS CROSS-OVER POINTS AND AREAS OF PUBLIC GATHERING AND DISPERSAL. ALTHOUGH AREAS SUCH AS THIS APPLY TO MOST URBAN SPACES, THE PATTERNS VARY DUE TO BUILDING DENSITY, PEDESTRIAN FLOW AND VEHICULAR ACCESS/ROUTES THROUGH CITIES.

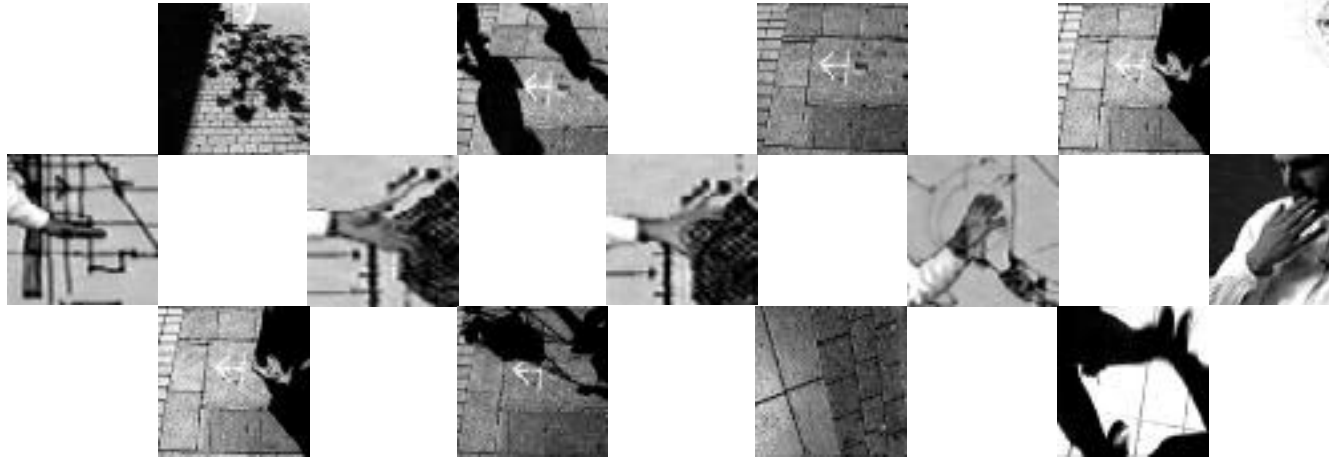


THE POSITION AND DISSECTION OF ANTE SPACE GENERATES POINTS OF DENSITY: THESE AREAS OF DENSITY HAVE SPATIAL, AURAL AND VISCERAL PRESENCE. THEREFORE, IT CAN BE TAKEN THAT THE PATTERNS GENERATED BY THE PHYSICAL PRESENCE OF THE HUMAN/MACHINE GENERATES PATTERNS OF AURAL DISTINCTION WITHIN PUBLIC SPACE, AS BOTH HUMANS AND MACHINES GIVE AURAL PRESENCE TO SPACE. THE MAIN FACTOR OF FLUCTUATIONS OF THE AURAL PATTERNS OF SPACE IS TIME. CHANGES IN TIME GENERATE DIFFERENT SPATIAL, AURAL AND VISCERAL EXPERIENCE AND PATTERNS CAN ARISE FROM THESE CHANGES.

THEREFORE THE PROJECT AIMS TO ABSTRACT THE CHAOTIC AURAL EXPERIENCE AND MAP THIS INTO A SPATIAL AND VISCERAL INTERPRETATION OF THE ORIGINAL MOVEMENT PATTERN.



ESSENCE AND STRUCTURE OF THE ROOM CHANGE...EVERY ONE HAS A PART IN THE SOUND OF THE

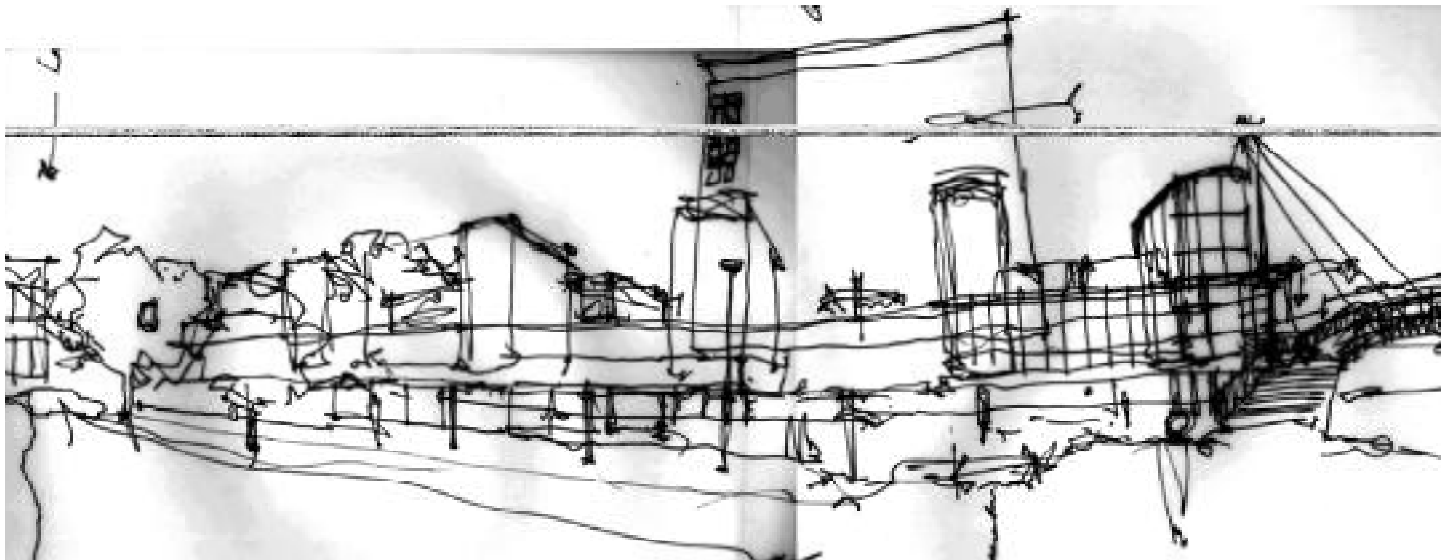


THE EXPERIMENTAL SITE FOR THIS PROJECT IS THE CIVIC CENTRE, PLYMOUTH.

THIS IS DONE THUS: SOUND MUST BE CAPTURED AND REFORMED INTO AN ARCHITECTURAL FORM.

A SAMPLE OF 1 SECOND DURATION IS TAKEN EVERY MINUTE FROM NO FIXED POSITION WITHIN A PUBLIC REALM. THIS CAN BE DONE EITHER BY PLACING FIXED NODES WITHIN AN URBAN ENVIRONMENT OR VIA THE INTERNET. NODES COULD BE POSITIONED WORLDWIDE AND A CENTRAL INFORMATION SOURCE COULD DECIDE THE POSITION TO ABSTRACT THE SOUND FROM. TO THE SYSTEM, JUST AS TO THE BRAIN, THIS IS RAW DATA IN THIS FORM...

-13895 288 -8668 -13517 59 -10788 -1353 -371 -13383 -13680 -669 -15510 -13408 -878 -17417 -13321 -1309

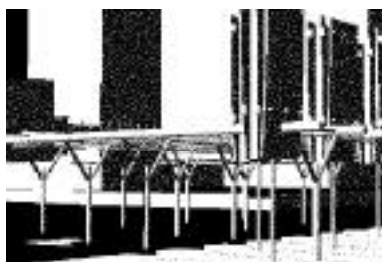


CONTAINED WITHIN EACH SOUND ARE CERTAIN AMOUNTS OF INFORMATION CONCERNING THAT SOUND; THE ATTACK AND DECAY OF THE SOUND (THE FREQUENCY DISTRIBUTION IN Hz) AND THE TIME ACROSS ANY SUB-WAVE CONTAINED WITHIN EACH WHOLE SOUND. THIS INFORMATION CAN BE USED TO REINTERPRET EACH SOUND INTO 3 DIMENSIONS.

**X-AXIS ATTACK OF SUB-WAVE / Y-AXIS DECAY OF SUB-WAVE / Z-AXIS TIME BETWEEN START & FINISH OF SUB-WAVE**

THIS INFORMATION CAN THEN BE PLOTTED USING A COMPUTER TO GENERATE A 3-DIMENSIONAL LINE THROUGH SPACE. THIS LINE THEN IN TURN GENERATES A SPACE WITHIN WHICH THE SOUND EXISTS, NOT AS WE KNOW IT, "OBJECTIVE", BUT AS IT COULD BE KNOWN, "SUBJECTIVE".

EACH SAMPLE WHICH IS TAKEN FROM AN URBAN SITE WILL LAST FOR NO MORE THAN 1 SECOND AS THE AMOUNT OF INFORMATION CONTAINED WITHIN EACH SAMPLE CAN BE MASSIVE.



THE PROJECT CAN BE EXPERIENCED IN VRML FORM @  
[HTTP://HOMEPAGES.ENTERPRISE.NET/CULVER](http://homepages.enterprise.net/culver)  
CULVER EPPS IS AN ARCHITECT BASED IN ELY, CAMBRIDGESHIRE.

