ARCHITECTURE DEPARTMENT CHINESE UNIVERSITY OF HONG KONG

MASTER OF ARCHITECTURE PROGRAMME 2000-01 DESIGN REPORT

TRAIN ON MATRIX

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TRAIN ON MATRIX

Final Design Project
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Instructor:
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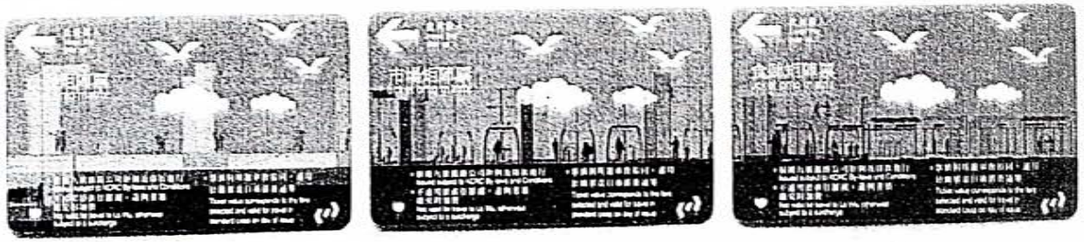
TIME
EVENT
VENUE
PEOPLE



PREFACE

For the past twenty-four years, one of my biggest neighbourhood has been the railway. My father being a locomotive driver, the first priority of finding a new home from time to time is always the distance from the railway. Our distance is so intimate that I used to have the sound of the train to be my lullaby every night.

After I have decided to explore on the topic, more and more friends approached me to show up their interests towards. Therefore I have a joyful year with all these discussions going on and on and on...

Here I would like to thank sincerely to

My Father, who is so knowledgeable about the railway and dedicated half of his life to it.
My Teacher, Professor Chang, who inspired me so much on the topic and gave crazy suggestions
Mr. Alfred Yeung, who has kindly introduced me to a tour to the Depot at HTL.
Andy, who encouraged me whenever I feel frustrated and praised whatever I have done!
Clifford, Dancing, Lkee, On, Samuel, Wesley, who keep on the discussions with me on all the topics, from Mao to fish, from philosophy to gossips.
And My Mother, allowing my bad temper and keeping me in good conditions by having delicious soup!

CONTENT

Programming 01
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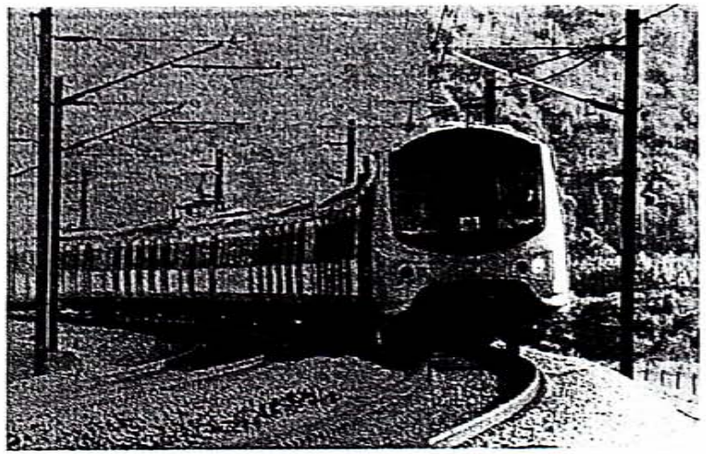
PRIMARY ELEMENTS OF RAILROAD

Train	as a means of transportation, a dynamic element
Rail	as the route of the movement, a path and boundary itself
Station	as a stationary nodal point along the path, provides impulse for the trains, where all kinds of interchange are carried out

INTRODUCTION--A DECONSTRUCTION OF THE RAILROAD

By definition, a train is a mobile element along a planned line, which is commonly understood as a means of transportation. After over a hundred of years of technological development, we are always trying to enhance its value, in terms of its efficiency, and hence the profit making ability. Yet, being a means of transportation, as the conscious interpretation of the train, it seldom becomes a destination itself, for which the people inside have no desire to get a statutory relationship with it, other than being an identity of [passers-by]

Here, I try to find out the unconscious layers of the train, particularly focusing on the local example of KCR system, in addition to its existing transportation value, through exploring the architectural interpretation as provisions from the railroad to its corresponding society, and hence transform their qualities into programmes responding to its relative social needs.



4 QUESTIONS

PHENOMENON OF TRAIN

As a part of the circulation web covering the city, it contributes to the transportation systems together with MTR, trams, buses and diesel fuel vehicles, ferries...and pedestrian.
As a tool for transportation, the railroad is designed to achieve its highest efficiency, in terms of speed, cost and space utilization. All these considerations are made from the engineering perspective.
As we travel by train going through the city, what we observe is a linear section cutting across it, our perception through the window facing the section is like looking at a scroll picture, with a condensation in time.

How is the existence of a railroad contributive to the characters of the society?

HUMAN ATTACHMENTS TO TRAIN

Our perceptions towards [train] are composed of senses. With its long history, we can still imagine the sound of the engine, the coal smoke turn the whole scene dark, the smell of the pig carts, the crowd on the platform getting on and off the train, the fluctuation of mood when there is gathering or separation with friends and relatives. With its historical importance, the station was always the icon of the railroad, embedding the collective memories of the people.
Different train series with their particular identities give us different attachments. While we are on a train travelling across the countryside, we can enjoy the leisure of the journey. The accuracy of the contemporary train gives us a sense of hurriedness instead, hurrying from home to work, hurrying after work to get across the bounders.

How should be the sensation be magnified to enhance our human attachments?

REALIZATION OF ASSETS FROM TRAIN

Engineers have long been working in achievement to attain a most efficient transportation means. This in turn generates certain social and spatial potentials currently being under utilized. Within the same density fluctuation of public and train circulation throughout the day, are there any leftover opportunities?
When we cut a series of time-section of the space, we would find that the density and distribution of the trains with respect to place changes with time, and this forms fluctuations in space articulations, when these train compartments are perceived as modules of spaces

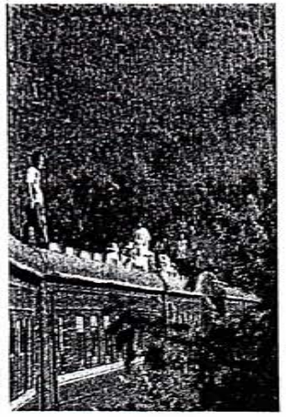
What should the new layers using the railroad be its means of advent?

LOGISTICS IN TRAIN

Trains follow certain logistics to make it differ from any other transportation means:

- Has a well-scheduled and precise time-table.
- Has definite points for departures and arrivals
- Car compartmentalization for flexible composition of the line
- Time intervals between the trains

How should we anchor additional layers onto the existing transportation system?



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TIME SCALE

Speed

With a high speed, there is only visual/audio communication between the static and dynamic, with no physical attachments. Though superficial, experience through the locations is condensed in minutes.

With a slow speed, its difference with the static surroundings diminishes, the space become more permeable, where we may even jump on and off the train through the physical openings.

With the stopped train, it becomes connected to the static environment when the doors are open; the particles are now freely permeable.

Relativity of motion and location

With a specific time along a single journey, there is a relative location of [self] on the map, even when the [self] is stationary on the train.

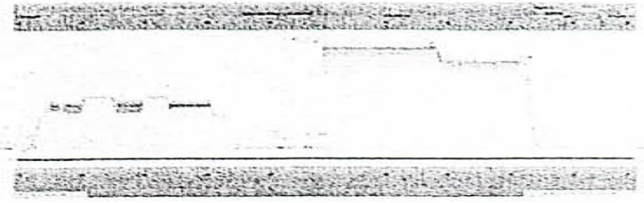
With a location on a stationary structure, in this case, a station, [self] often move to seek for his own destination.

Timetable

Running of trains is a time-dependent industry, i.e. utilization of the railroad depends on time. Whereas timetable are designed with hours and days; there are periods of peak and non-peak hours, there are holidays, festivals, events and working days, where the density of the people and trains varies.

There is rarely 24-hour transportation on the railroad, for the rail needs [sleeping]. While sleeping, there are engineering carts ensuring the rail is under its best conditions for daytime performance.

At the moment, the timetable of train coincides with the timetable of the general public on the layer of transportation. The peak hours of train



SPATIAL VALUE

Exterior VS Interior—Visual Permeability

The boundary defining the train is clear with an air-sealed skin, with air-conditioned interior.

Spaces with different speed defined themselves into compartments. There are compartments between the station and the train; there are compartments between the surrounding heritages and the trains; there are compartments between the opposite direction trains.

Different spaces communicate and realize each other through its visual permeability. In an instance, we can see a fast moving train with bunches of trees as the background, even though they are not under the same space category.

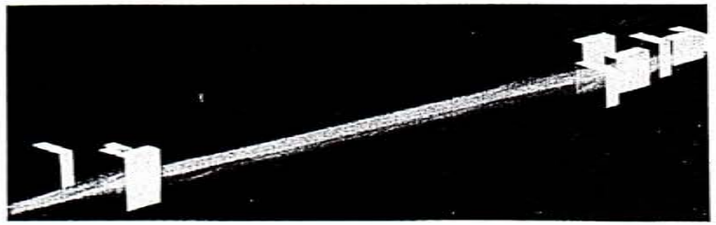
See VS Be Seen

Moving exhibits with stationary audience

Moving audience with stationary exhibits

On a stationary point—with train VS without train

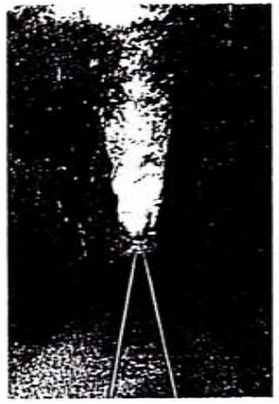
Stations are isolating [islands] when there is no train. People standing on the platform are seeking [escape]. Trains are occasional appearing [bridges] to connect these islands. While the train is not stopping but passes by the station, the station is still an island, with there is a motion in vision.

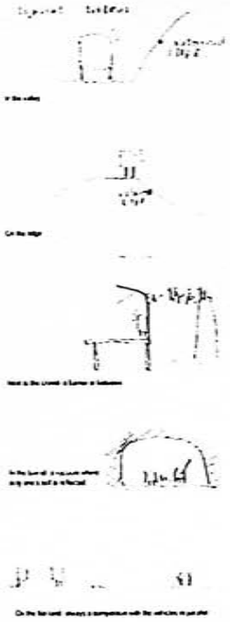


DEGREE OF ENCLOSURE

Boundary Vs Path

"...an expressway may be a path for the driver, and edge for the pedestrian...." (Lynch Kevin, *the Image of the City*, p.48)
Unlike a road with pedestrian crossing, the railroad has no penetration between the two sides on the same elevation to minimize the traffic interruption. To get across the boundary, we can only get through subways or bridges.





SOCIAL VALUE

Military purpose

The historical genesis of the train. It is a transportation provision of assets, goods, people and weapons, running through states and provinces.

Cross-country

For the node with exact locality, it reflects the localization of the place, in which the local culture ties its identity to the place. Whereas the line communicates and transforms the difference in locality, with the compression of time and hence the experience, minimize the effect of localization. Through penetration, particular characters belonging to a specific place is being globalized.

Property Development

Transportation brings in new towns with population. The station area becomes the best location for residential development, on the best location in the circulation web.

Commercial Development

With the same population brought in by the train, where the station as the main transportation interchange, various commercial opportunities are aroused. Marketing strategies are often made according to social standards of the population flow around a specific station and corresponding district, their relative purchasing power, and shopping reference, etc.

SITE STUDY STRATEGIES

SITE ELEVATION—a district development distribution along the line.

SITE SECTIONS—degree of enclosure along the railroad.

MOVIE AT PERSPECTIVE
Locate the "perspective" at the front of the train to experience the sense of vector from urban to rural districts.
Capture the time-place correlation along the railroad.

PICTURES
View from the windows of the compartments as a slide in process of the outside scenes.
Show fragments of image and perception of the relative places.

TIME TABLE/SPEED CONTROL
Express the "density" of the trains along the time.
Use time as a measurement of distance.

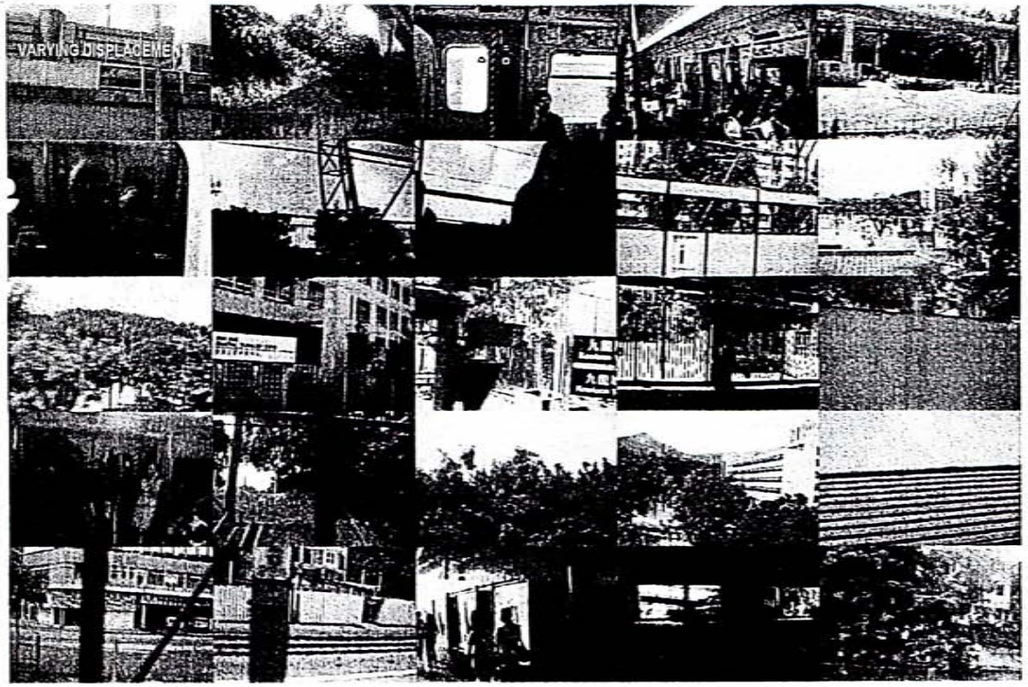
	Associated shopping mall	Multi-media	TERMINUS
LO WU		Yes.	Yes.
Train			
CHANG SHUI	Yes.		Yes.
Train			
FANLING	Yes.		
Train			
TAI WO	Yes.		
Train			
TAI PO MARKET	Yes.		Yes.
Train			
UNIVERSITY			
Train			
RACE COURSE		Yes.	Yes.
Train			
FO TAN		Yes.	Yes.
Train			
SHATIN	Yes.	Yes.	
Train			
TAI WAI			
Train			
CITY CENTRE	Yes.		
Train			
KOWLOON	Yes.		
Train			
HUNG HOM		Yes.	Yes.

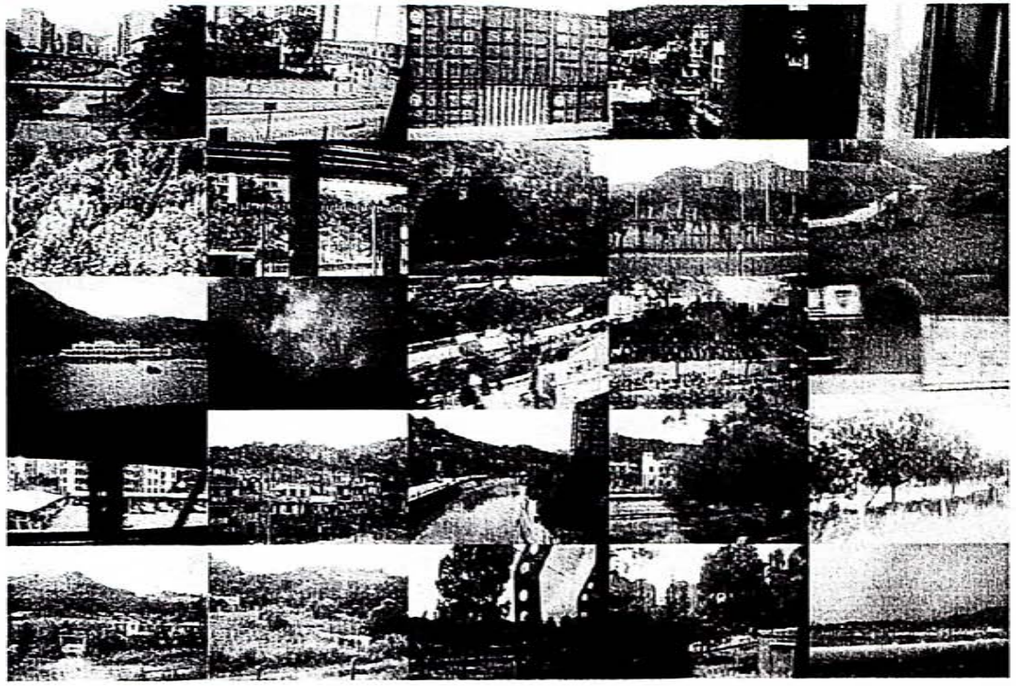
EXPERIMENTAL THINKING

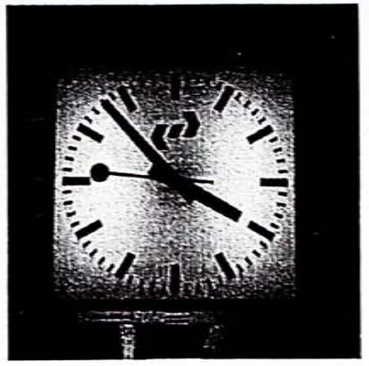
Temporary Human Relationship on train
With the [on] and [off] relationship of passenger on train, it is a provision of temporary interaction of people. Such associated activities are dating, parties...etc.
Such a kind of human relationship also relates to the location of getting on and off the train. Various groups of people get on the train from various location and various time, which leads to various stories happened on the train.

Shows and performance
With the visual interaction inside and outside the compartment of trains but no physical contacts, there are two performing relationships allowed.
Moving exhibit/performance with stationary audience,
Stationary exhibit/performance with moving audience
Suggest there is a broadcast of various shows on the train, there would be a relationship with moving performance through the stationary audience, i.e. the public on the two side of the railroad. Still, there would be a clear boundary between the performer and the audience, even though their distance may be very minimal. With incidence where public participation is allowed, there would be a break through of boundaries, such as the public is invited onto the train for parties, or the performer goes down into the public.
c.f. election promotion vehicles
concerts

Role Play Games
With the [virtual reality] created on computer, game players are looking for real settings for adventure games.
War games fall into the same logic of train with its military history.
c.f. Mario-Wonderland


VARYING DISPLACEMEN





TimeTable

Unification of Space

Hybrid Composition

Transportation

Penetrative Promotion

ShowTime

Participant

Human Relationship

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TimeTable

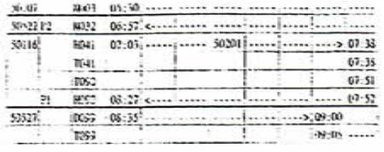
Every train has its own schedule of service time, as an integration, the distribution of train density varies with time. During the peak hour, the majority is crowded along the rail. Vice versa, the trains would be accumulated in the depots, i.e. Hung Hom terminus, Lo Wu terminus and Fo Tan HTL.

Transportation forms a layer of functional space flow pattern, which is ever changing with time. The negative time-space left over from the previous functional layer gives opportunities to other flowing of dynamic functions.

Unification of Space

Running with a speed of 50-120km/hr, the sensation of space is being much compressed with the reduction of time scale. Like a card with two discrete images on two sides, rotated under a high speed, it would give an illusion that they happen to be within the same space. The train tied different nodes far apart together to form a single space under the same philosophy, in which the train itself is not a line of vacuum experience.

This line of experience links up and moderates the difference of nodes in their specific locations. This experience should be responding to its surroundings—the nodes of getting on and off, the sectional spaces passed through. It can also be enhanced through the life inside the compartments of movement, in which the duration varies from minutes to hours, and even to days.



Hybrid Composition

Through studying the relationship between the motion and the station, try to clarify different states of space, classify into functional components, in order to unify into a single programme.

Have a slot in relationship with the existing transportation system along the rail, so as to
- utilize the existing provisions including the geographical occupation, technological supports, social impacts, etc.
- parasite on with the under utilized layers of considerations
- minimize its adverse impact towards the efficiency of the existing system.

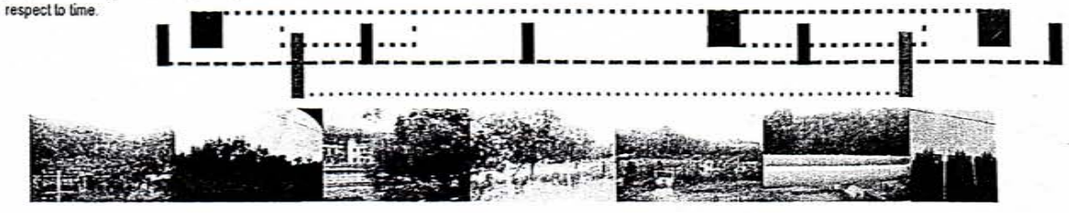
The formation of space to allow such a hybrid requires a high flexibility in composition. This would be composed with different configurations of the mobile modules, i.e. the train compartments. Such a combination with various mobility according to its programme changes the composition patterns with respect to time.

Transportation

The programme would be generated with a transportation need for
- a change in locality,
- sectional exposure of a place,
- communication,
- exchange of entities.

As a means of transportation, the train shortens the perception of distance and hence bringing the distant locations together, for the people on the trains have their own starts and destinations, known as strangers to each other.

Yet, the transportation of activities is an additional layer, aiming to bring the [strangers] with different identities together, through the sharing of activities along the train, enhancing the communication, shortening their social distance.



Penetrative Promotion

With the movement of the train, one can penetrate through the city with a condensed period of time. Scenarios of the districts are unfolded to the public through the fast moving picture frames.

The scenarios observed are not homogenous. The train would lead one through the rural villages to the dense urban.

The train in motion generates an advertising opportunity. Its penetration to the public takes an active step in marketing strategy, c.f. mobile phone, cable TV.

Potential for commercial activities, yet not a widespread distribution like the convenience store, but a widespread appearance at a specific time gives a promoting effect with very limited resources, c f. the ice cream van.

ShowTime

Everyone has his own timetable, so do every train series. According to the individual's schedule, he has a predetermined time to be on the train everyday, so do a predetermined train programme on a definite part of the rail with a definite time respectively.

With the visual interaction inside and outside the compartment of trains but no physical contacts, there are two performing relationships allowed.

Moving exhibit/performance with stationary audience,

Stationary exhibit/performance with moving audience.

There exists a chance of communication between the different train series, between the static and the dynamic, the stations and the train, through the impact of visual contact between the interior of the train and the outside world, even though that is only a temporary relationship.

Participants

The existing passengers of the railway business form the potential audience, for which the varying identities appear with time—the white collars appear in 0600-1000 and 1730-1930, students appear in 0630-0900 and 1500-1700, outdoor services appear in 0900-1700, entertainment appears in 1100-2300, families appears in holidays...

Though their identity are all the same on the train, being passengers. We only guess their identities while they are off the train, from how they dress, what they take, when they come and where they go.

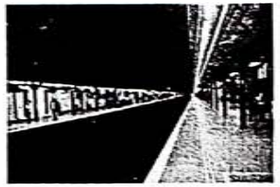
When the train is turned from a means to an end, the participant would perform a multi-identity on the train—

Passenger + Worker + Student + Entertainment +...

Human Relationship

"I am waiting for a gal. She will certainly get on the bus, I believe. Though I don't know when and which stop she is waiting there. Yet I believe I will eventually meet her somewhere at sometime..." Jan Lam, *Love is not a game, but a joke*.

With the [on] and [off] relationship of passenger on train, it is a provision of temporary interaction of people. Various groups of people, with their different background, culture and values, get on the train from various location and various time, which leads to various stories of interaction happened on the train as a confined space inside.



MULTIPLE IDENTITY ON THE LAST TRAIN

Three Statuses of Train

the Last Train

Identity

Time-Space

Time-People

Time-Event

IDENTITY MATRIX FROM THE LAST TRAIN TO THE FIRST TRAIN

Here is a story. Once upon a time, there was a king with twelve lovely daughters. The twelve princesses were so closed together that they even share a single bedroom. The king concerned his daughters' safety so much that he would kiss-goodnight to them every night and then locked up their room. Surprisingly, every morning when the king went up to open the door, he would notice that all the twelve pairs of shoes were worn out by the bedside with the girls sleeping sweetly. "Where have they been last night?" the king wondered.

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There are three statuses of trains:

Play ▷ the train in motion, running along the line bringing passengers from place to place, with a duty of transportation.

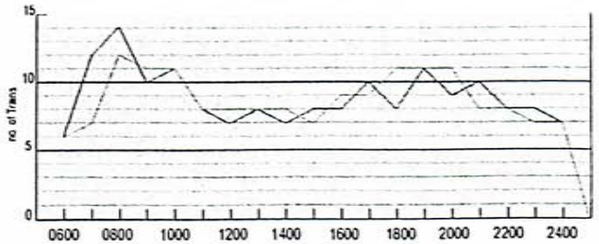
Pause ▯▯ the train is temporary stopped along the platform, where passengers can freely move on and off through the openings.

Stop ■ the train is parked on a sidetrack in depots for hours during non-peak hours, when not all the trains are required to be on duty. The trains under such situation have the engines and lights turned off.

THE LAST TRAIN

It gives a full stop to the daily [normal] duties by sending the passengers to where their homes they belong. After a day of running through the North-South axis, the train is sent to the depot as its [home] for resting, checking and get prepared for the next day.

Completion of one paragraph gives a start to the next one.



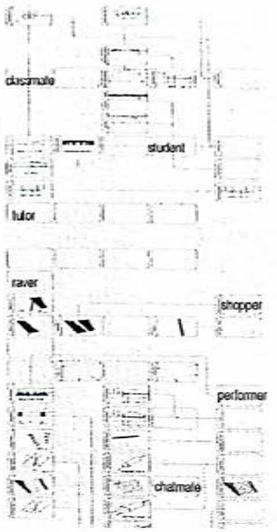
DENSITY FLUCTUATION THROUGOUT A DAY

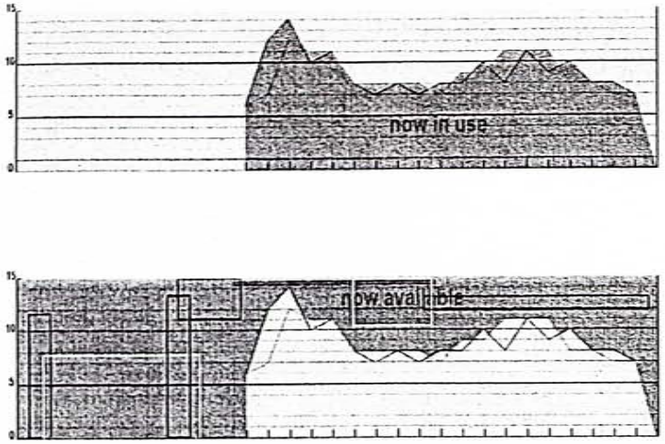
IDENTITY

Our identities are defined by in which group we are belonging to at a given time. We have got the same identity when we are squeezing together inside a dense train compartment. Similarly, people squeezing in the rave parties are under the same category, through which they have got the recognition of their identity, even though they may not be agreed and recognized by those standing outside.

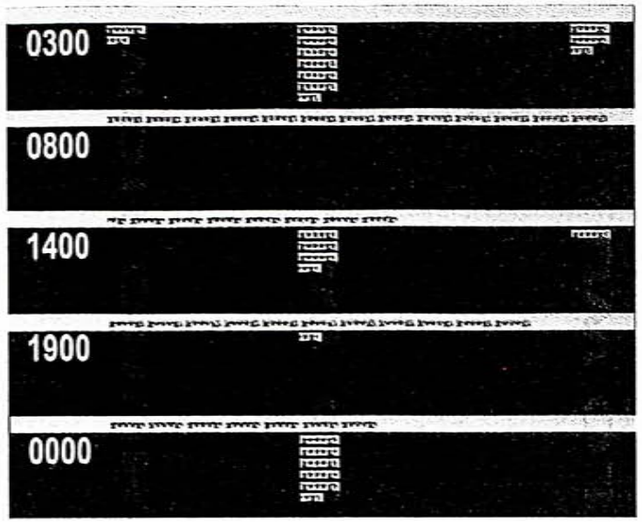
However, we can perform multiple-identity in different time and space when facing different groups of recognition, which the diferent identities can flip over one another when we come across the different groups.

9-5 is a concious time to earn a living for most of the public, and the people would probably be responsible to the difined identity. The "ALTERED SENSE OF CONSCIOUSNESS" as a release from the stressful daily life by giving ourselve another character under another identity.





TIME-SPACE: Figure & Ground Relationship from the Density Fluctuation, providing "space" for architectural intervention of various functions.



Flowing of "Space" from Rail to Depots

TIME-SPACE

The spatial configuration and the circulation pattern changes along the rail with time. The peak hours and the nighttime form each other a figure and ground relationship. Different functions may occupy along the four dimensions of space and form a matrix, in which each functional space has its own occupying modules, and may be permeable to each other whenever there are crossings

The configuration of the matrix comes from the varying combination of compartments where the fluidic space would be enhanced with the fluidic circulation pattern of the people inside, as well as the circulation of the space itself.

TIME-PEOPLE

Everyone have a schedule to spend a day, for which this schedule is time and event based. We go to different places to perform different roles at different periods of time, where the place is always single functioned.

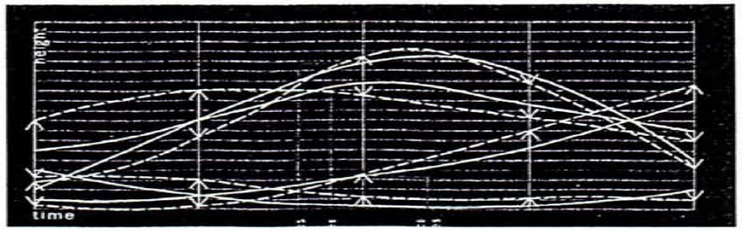
The train having multiple functions as a schedule of duty per day would accommodate more passengers with different objectives. The same person on the same train along the same rail may have a different identity in a different programme and different time. Whereas, inside the matrix with floating connections, people with different backgrounds and identities would be allowed to come across with to each other.

TIME-EVENT

Where can we find the people during the non-peak hours?

1000-1600	2000-0600
office	home
schools	cinema
home	bars and pubs
markets	restaurants
shops	karaoke
restaurants and café	rave parties and discos
	under the bridges
	studying desks
	convenience store and ghost markets

Events chosen to appear in the programme would be able to promote flowing of circulation across the identities, where varying scale of gathering would perform.



Genesis
Train going within a city is used to be considered as an efficient transportation tool. This engineering design is advance enough to have a precise timetable along a fixed route so as to maximize its efficiency and reliability after nearly a hundred years of development in the community.
Yet, is a transportation tool the only role and perspective of the train, within all these well-calculated parameters, to attaining its highest efficiency of commitment to the community?

Argument
I try to transform the train, an engineering product, in terms of architectural language to explore its quality and potentials of its time and space configurations as a mobile element through the static neighourhood. This is to find out the fluidity of space within the well calculated and pre-justified logistics of the existing system.

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SOCIAL SIGNIFICANCE

MASS + TRANSPORTATION

Train as a mass transportation means throughout the urban context, it gives us:

MASS
- public's attention
- tentative customers
- social gathering opportunity
- crowdiness & density

TRANSPORTATION
- distribution of locality
- mobile promotion
- penetration

COMPARTMENTIZATION
- goods and services in catagories
- clear boundary definitions
- variation in combinations
- franchise systems

PARTY on train
- time dependent gathering
- mass and crowd
- music and noise control
- absence of locality
- mobile gathering
- no. of parties participated

FLEA MARKET on train
- easy distribution of resources along the line
- promotion carriage
- live demonstration
- instant service provision
- wide source of customers from neighbourhood

CAFE & RESTAURANTS on train
- mobile service
- static form of gathering

ETC...

THE RAIL

Running right across the New Territories and Kowloon, the rail connects the social life of most of the urban citizens living along. Along the rail, the surrounding districts are all continuously urbanized throughout the decades.

The rail forming a fixed route for the train to pass through all along from Lo Wu to Hung Hom, can also perform as a SOCIAL SPINE connecting the districts. The path joining the nodes of the stations together, then the scale of social activities would be linked up through the districts of neighbourhoods.

At night, the rail is fractionally under regular mentainance or there may be emergency repairs. Usually, these mentainance works need booking a month before. Therefore, the programme would be in a queue together with these bookings. The rail is fractionalized with these varying functions, so as the route of every night's programme may vary with its destinations. Such as one night from Mong Kok to Sheung Shui, another night only from Kowloon Tong to Tai Po Market, or even having single track with dual directions.

THE STATION

With platforms at each stations opening up off the operation hours as a "TRAIN PARK", allowing the neighbourhood of the corresponding stations to gather and relax, with the provisions of simple park furniture and kiosks. The public may even get across these neighbourhood to the next through the connection of the trains.

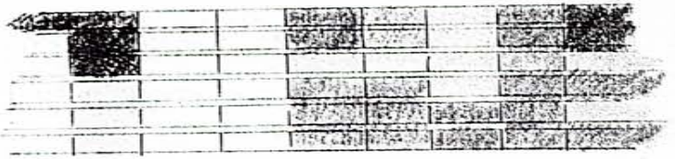
At these node points of the path, there are the entrances/exit to the matrix programme. Once the participants get through the ticket booth, the party begins...

THE TRAIN

There are 4 EMU in a train series, in which each EMU is made up of 3 compartments. The train is the only mobile element of the railroad.

Varying programmes are composed in these EMU modules as different train series, carrying along the rail at non-peak hours, pick up the participants from all the stations to join in.

These train may "meet" each other at multiple tracks, and hence form a place of "RANDOM GATHERING", where the combinations of trains in a cross section is always changing.

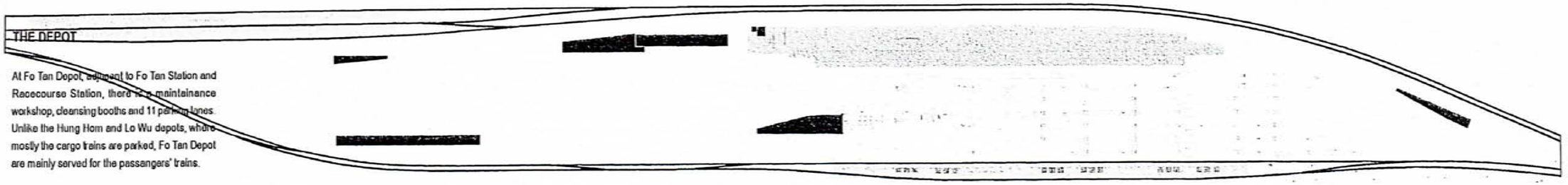


THE DEPOT

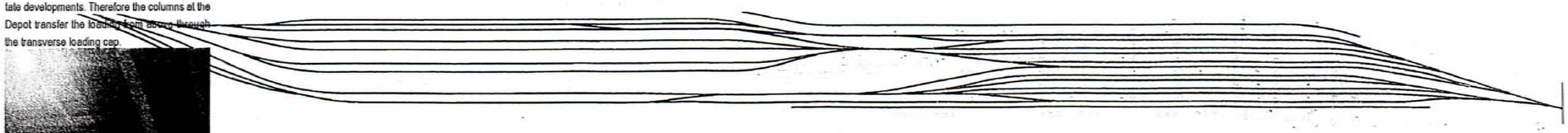
At Fo Tan Depot, adjacent to Fo Tan Station and Racecourse Station, there is a maintainance workshop, cleansing booths and 11 parking lanes. Unlike the Hung Hom and Lo Wu depots, where mostly the cargo trains are parked, Fo Tan Depot are mainly served for the passangers' trains.

The multi parking tracks in the depot provides the programme with a mass gathering place. Here all the participants are gathered and then becomes the mass pool of people carrying out varying events.

Above the Depot, there are two residential estate developments. Therefore the columns at the Depot transfer the loading from above through the transverse loading cap.

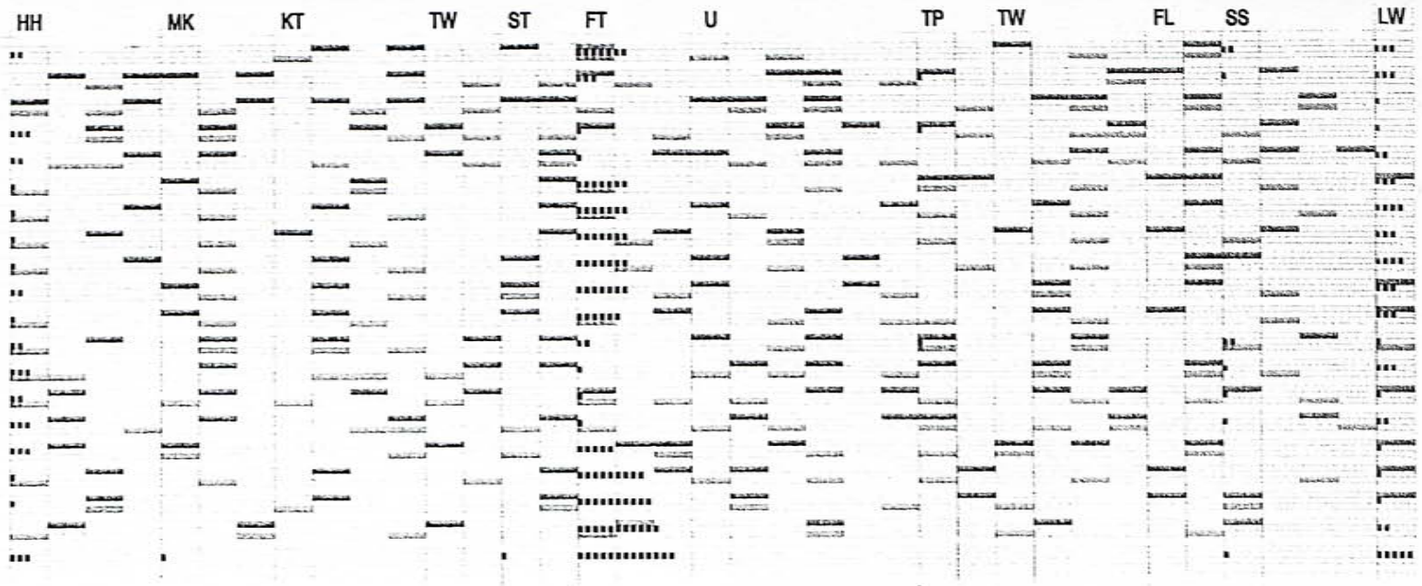


DAY FLUX ■ office & storage ■ workshop ■ station ■ day time EMU rail



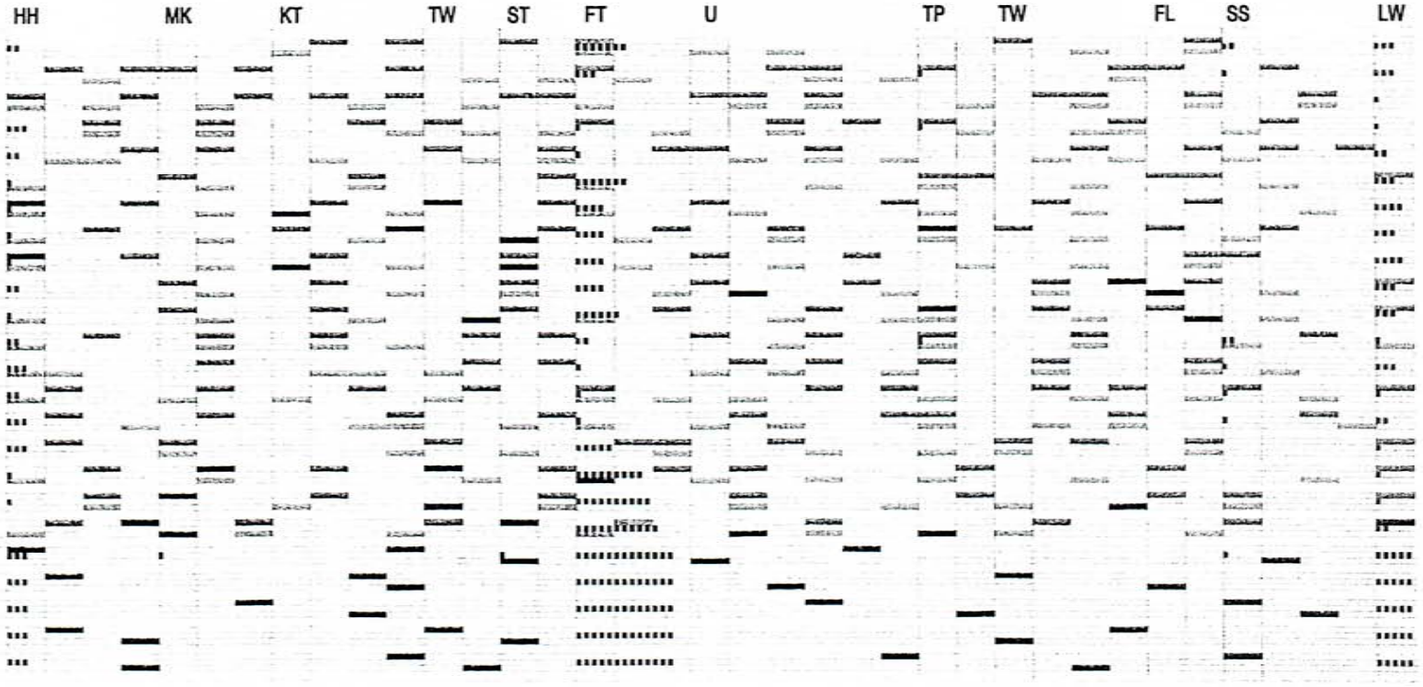
NIGHT FLUX ■ EMU series parking ■ night-time EMU rail/ drop off rail ■ service rail with lavatory, phone and internet units passing by

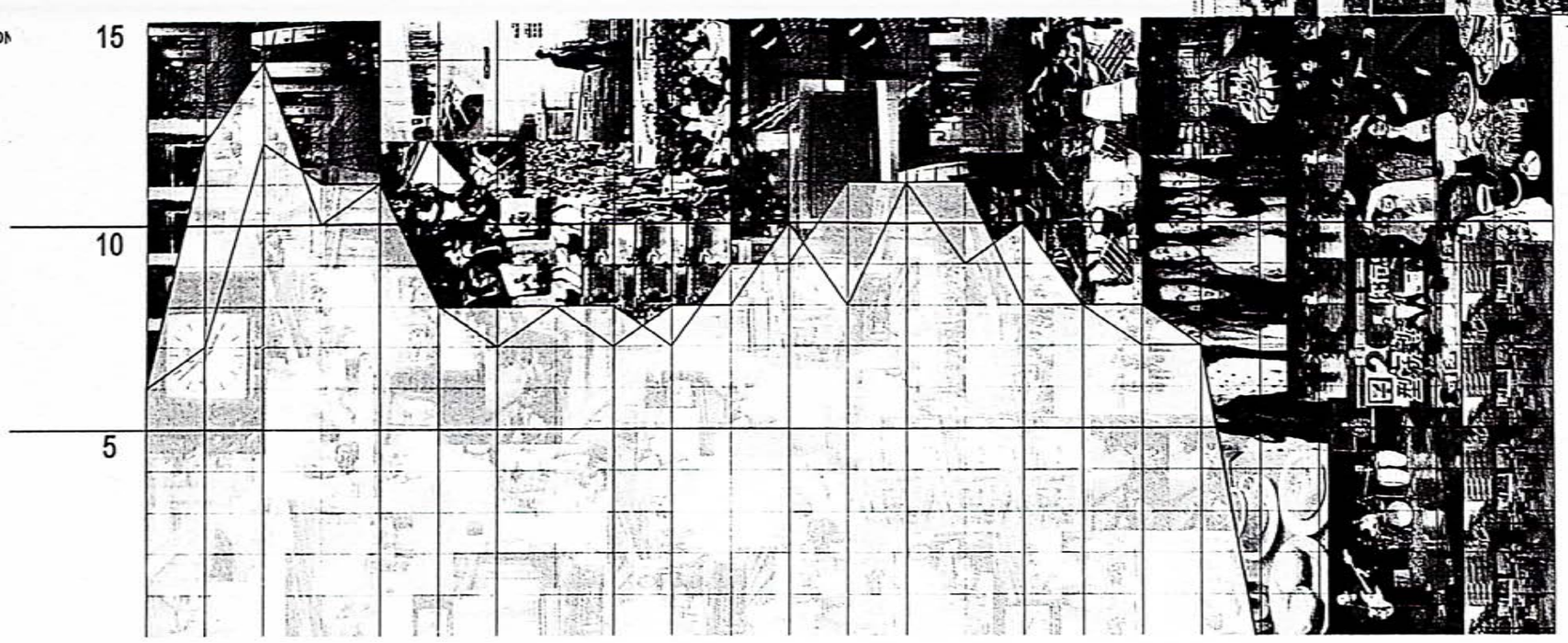
PASSENGER TRAIN DISTRIBUTION ALONG KCR EAST RAIL



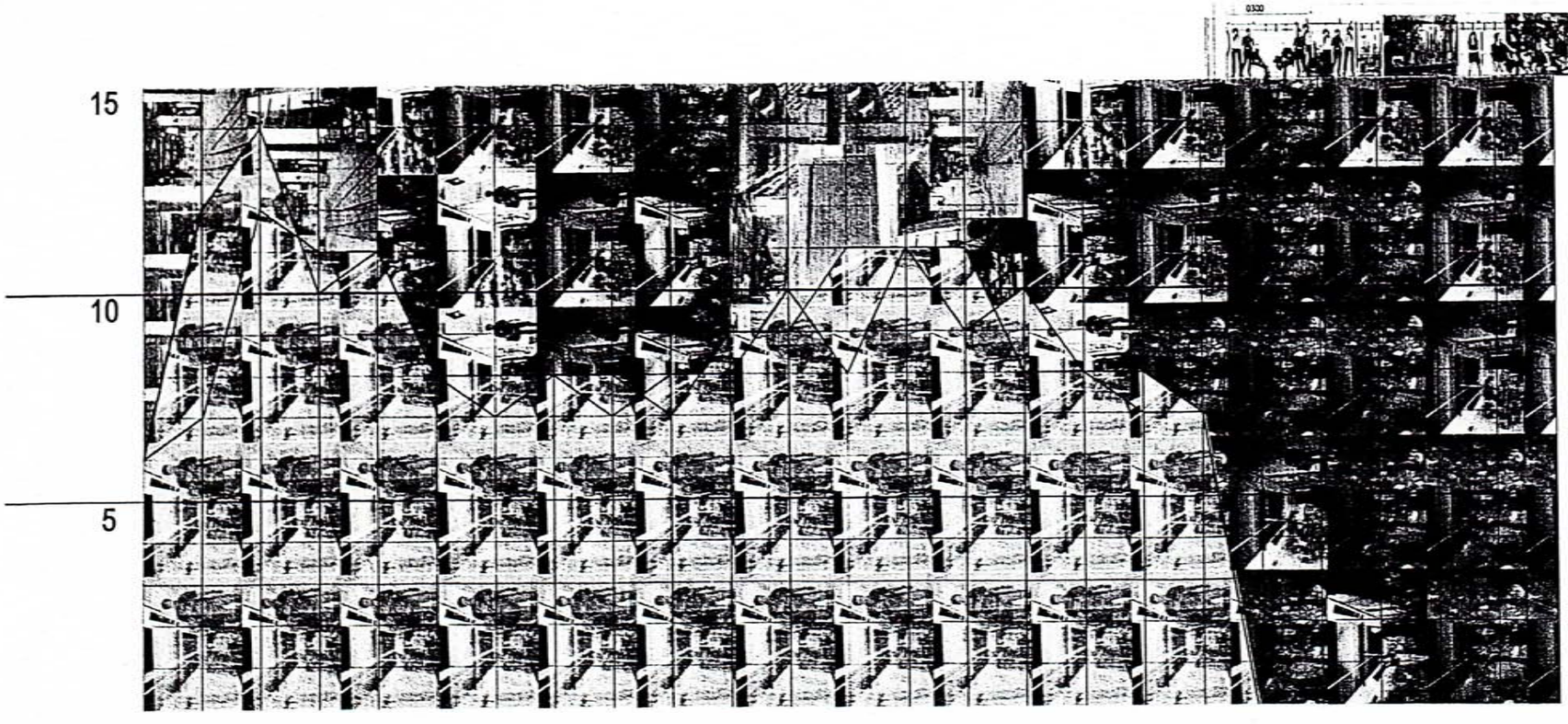
South Way **North Way** **Gathering trains** **Pause by Platform** **Stop at Depot** **Gathering Stops**

PASSENGER TRAIN DISTRIBUTION ALONG KCR EAST RAIL

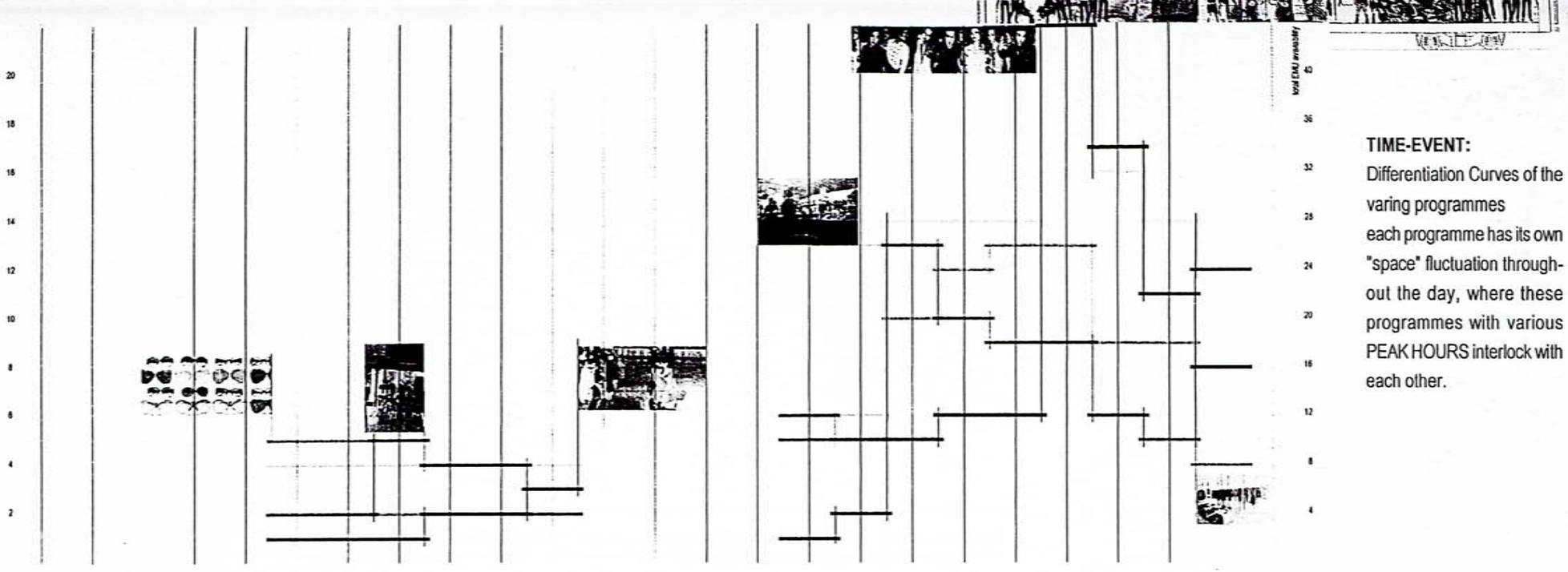




TIME-SPACE: Figure and Ground Relationship from the DENSITY FLUCTUATION of the normal EMU series, providing "space" for architectural intervention of various functions with respect to time accordingly.



TIME-SPACE: Figure and Ground Relationship
changing faces of EMU series



TIME-EVENT:
Differentiation Curves of the varing programmes
each programme has its own "space" fluctuation throughout the day, where these programmes with various PEAK HOURS interlock with each other.

SCHEDULE OF ACCOMMODATIONS

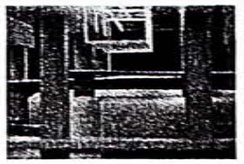
	STATIC				DYNAMIC		
	Massage	Customer Service	Food Stall	Cafe	Performance	Disco	Dancing
STOP	PREPERATION WORKS				ACCUMULATION OF VISITORS		
					A SHOW FOR THE FIXED AUDIENCE		
PAUSE BY PLATFORM	PASSENGERS TO GO HOME/ JOIN THE GATHERINGS						
	TRANSACTION ACROSS THE BORDER OF GROUPINGS						
LOW SPEED (20-50km/h)	SERVICE PROVISION		SCENERY + TRANSPORTATION		PERFORMING SHOW		
HIGH SPEED (50-80km/h)	GREAT PENETRATION POWER TO APPROACHING VISITORS				ISOLATION OF TRAIN		

DYNAMIC SERIES ALONG THE RAIL		STATIC SPACE PARKING AT DEPOT	ATTACHMENTS
6	0030 to 0530	11 X 12 X 22.47 X 3.00 = 8898.12 m² ~ 1000 ppl	STORAGE Installation equipment Products & goods
0	0530 to 1030	0 m²	Food Musical equipment
3	1030 to 1630	2 X 12 X 22.47 X 3.00 = 1617.84 m² ~ 160 ppl	SERVICES Kitchens Staff & technicians' restroom Security Control Managerial Lavatories RCP
0	1630 to 2030	0 m²	
3	2030 to 2230	3 X 12 X 22.47 X 3.00 = 2426.76 m² ~ 250 ppl	
6	2230 to 0030	6 X 12 X 22.47 X 3.00 = 4853.52 m² ~ 500 ppl	

TIME-SCHEDULE FOR BOMBARMENT SERIES

20-60 min Time for one train fleet
60 min Time to travel from Lo Wu to Hung Hom
38/km/hr Everage train speed

COMPOSITION OF BOMBARMENTS



Final Design Project
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Architectural Discourse
I try to use train as the media, to design a matrix for varying events to happen on a "CALCULATED AND PRE-JUSTIFIED" time and space, inviting its participants accordingly.
Train as a complete system = locomotives + rail + stations. It is a means to transport the mass to their destinations. Here under the MATRIX, the mass is brought to and from the HTL depot to join the night and tea parties holding all along the rail. The means becomes the destination itself.

FORM forms follow functions.
a single scenario to be formed from interchangeable components, under different time and compositions, duties carried by all these components are different contributing to the function accordingly

SPACE perception of space occupying by one differs from varying perspectives. These perspectives are constructed by the compositions of components and the particular locations of self. These may be bounded by the opaqueness of the components, whereas continuation of space is realized through the continuing movement of self all around the place.

ORDER [time venue]
[event people]
Time—a basis of the changing pattern of our lives. We schedule all our activities along with time. Therefore there is a timetable to centralize control the mass' flow of activities.
Venue—the place to meet changes with time. With the timetable for all programmes to happen in a specific period, the components carrying these programmes are changing its locations according to the timetable. When one wants to join in a programme, he has to catch up the right train on the right time.
Event—every programme has its own participation pattern throughout a day, i.e. the peak hour distribution. Events to appear on the train fit into each other in these cycles. Getting benefits from the train system, these events are mostly mass gathering, while transporting along the rail, raising its promotion and commercial potentials.
People—enjoying through this journey are coming for mass and transportation. Venue of the event is no longer a problem for the people living along the rail. Once they get on the platform of the station nearby, the event starts. As the event goes along, they are picking up their friends all along the rail wherever they get on the train.

Time of Matrix
- complementary timetable
- peak hours
- programme allocations
- time pattern
- role of participants

Logistics of Matrix
- existing usage (day flux and night flux)
- role of the train along the line
  when it is parked in the depot and join with other components as a whole and when it is going along the rail as self sufficient component.
- installation procedure
  where to install, when and how.

Table for Matrix
- perception of scale—columns
- elements and attachments
- scenarios over time and event

PASSENGERS' NOTICE

ACCESS
The passengers may enter or leave the MATRIX through any platform along the railway during the normal operation hours. Particular platforms are also opened up after this.

OPERATION HOURS AND CHARGES
The matrix is open from 1000-1630, 2100-0530. Yet the particular opening hours and locations of particular enterprises depends on their own decisions, which may be changing from day to day. Please refer to the occasionally updated time-schedules from time to time. http://www.kcrc.train_on_matrix.com.hk

Admission fees and service charges are taken up to individual enterprise. Passengers would be charged for the transportation fees according to where the passenger get on and off the train.

TRANSVERSE CIRCULATION
Passengers can get across the rail directly on the platform level through the train doors when the trains are parked there, or
Through the transverse elevators distributed on every platform without any potential disturbance from the arrival or departure of the trains to/from the platforms.

AUXILLARY FACILITIES
There are two service rails located on the two transverse sides of the MATRIX, one by the RACECOURSE STATION and one by the WORKSHOP. The service unit—LAVATORY/PHONE COMPARTMENTS would go along this rail to and from the two longitudinal ends of the MATRIX. Internet service is also available on this compartment.

SAFETY
Please beware of pickpockets.
There would be staff on petrol all around the MATRIX, please call them if you need help.
In case of fire, all programmes would freeze, and then all the train doors would be open. Please escape to the RACECOURSE STATION platform along the direction as indicated on floor and wait there for rescue.

TENANTS' NOTICE

The development of the MATRIX are divided into 3 phases, and the time frame of each phase depends on the numbers of tenants join the programme, the ease of management and the most significantly, the number of passengers participate. Starting from a small, yet sufficient scale, the MATRIX would expand when the number of tenants and participants are saturated and the management skills are advance enough.

In phase I, Mong Kok, Shatin, and Tai Po Market would be opened up as access points after the normal operation hours, i.e. 01:05 to 05:15.
There would be 2 lanes at Fo Tan Depot available for the MATRIX, together with the information counter, central control room, staff room, store room and one preparation kitchen. This is a trial phase as a small-scale programme still allowing the variety of choices of business to the tenants.
The main focus of the programme would be on the train instead of at the depot, where the participants would mainly be staying in the train, therefore the fluidity of the passenger would be high when the train is going along the N-S way.

In phase II, in addition, Tai Wo, Sheung Shui would also be opened up as access points after the normal operation hours.
4 lanes would be added to a total number of 6 at Fo Tan Depot for the MATRIX, together with the second floor dancing pool and the café deck.
Apart from being the parking area for the train, the MATRIX at depot would also become the parking point for the passenger, undergoing more spatially static activities and hence forming the mass collection point.

In phase III, in addition, Tai Wai, University and Fanling, would also be opened up as access points after the normal operation hours.
All the 11 lanes would be available for the MATRIX, together with the performance stage and another preparation kitchen in addition.
Under this programme scale, the size of mass is large enough to hold festival events, passengers have the choice to stay around the depot or going along the N-S way.

INSTALLATION
Apart from train compartments, the rent contract also include the storage area, yet tenants should have their own support staff to manage the installation of the compartments after its undergoing normal services.

DEVELOPMENT IN PHASES

PHASE I

PHASE II

PHASE III

COMPONENTS OF THE MATRIX

The programme of the MATRIX is composed of 4 elements:

TRAIN
an interchangeable module forming various composition

RAIL
along it is the journey of experience
and
vector of the trian movement

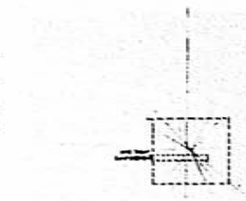
PLATFORM
a static anchor and connection

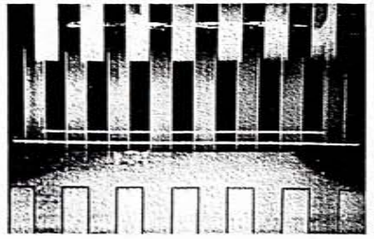
ATTACHMENTS
genesis of focus and landmark to the public
provision of technical support & control

TIME	basis of the changing pattern
VENUE	media to contain the varying programme
EVENT	individual programme integrates to form the pattern with respect to time
PEOPLE	enjoying the "mass" and "movement along the train with varying time

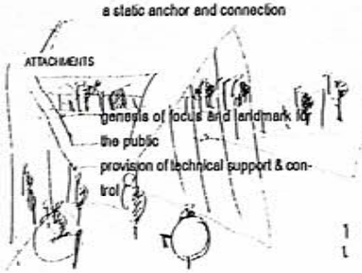
There inside the FOREST OF COLUMNS IN THE DEPOT of the compartmentized trains, perspectives are alway fragmented.

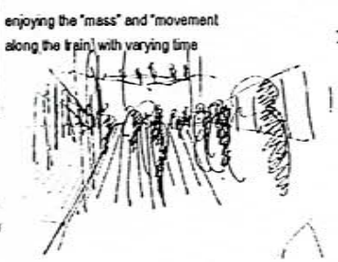
Through movement, our sensation of space is a MONTAGE of impression, not from a single view of a well-defined space, instead a combination of continuous perspectives, sound, image and projections as PATCHES OF SENSATIONS.

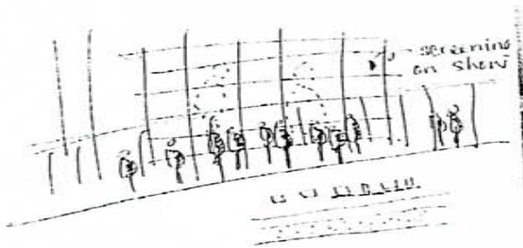


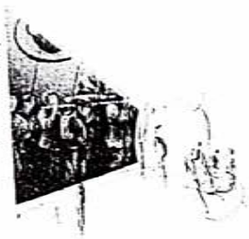


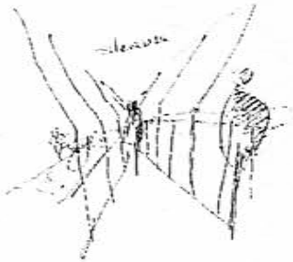
personal perception scale in columns

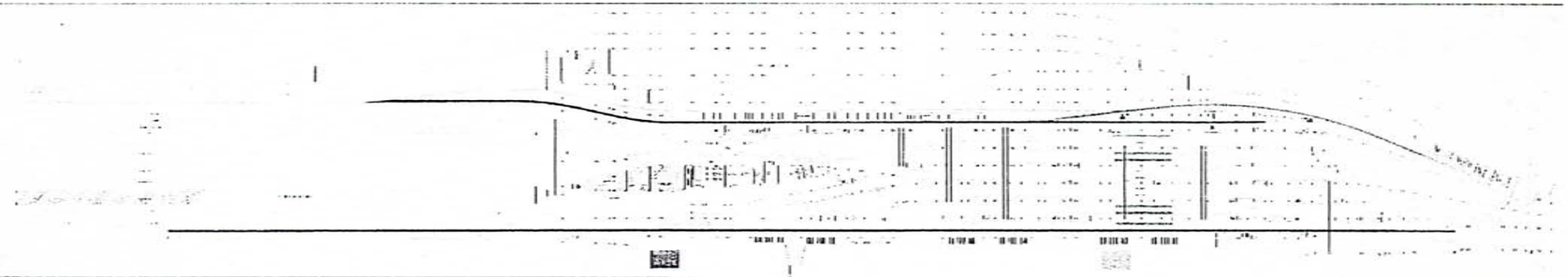












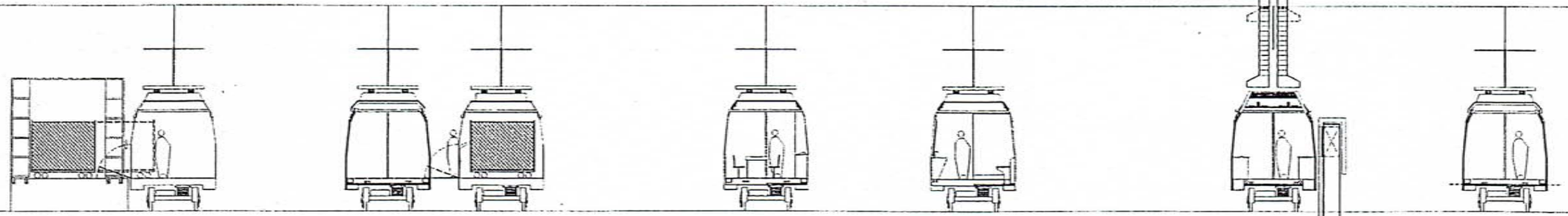
LOADING/ UNLOADING CARRIAGE

INTERNET PHONE UNIT

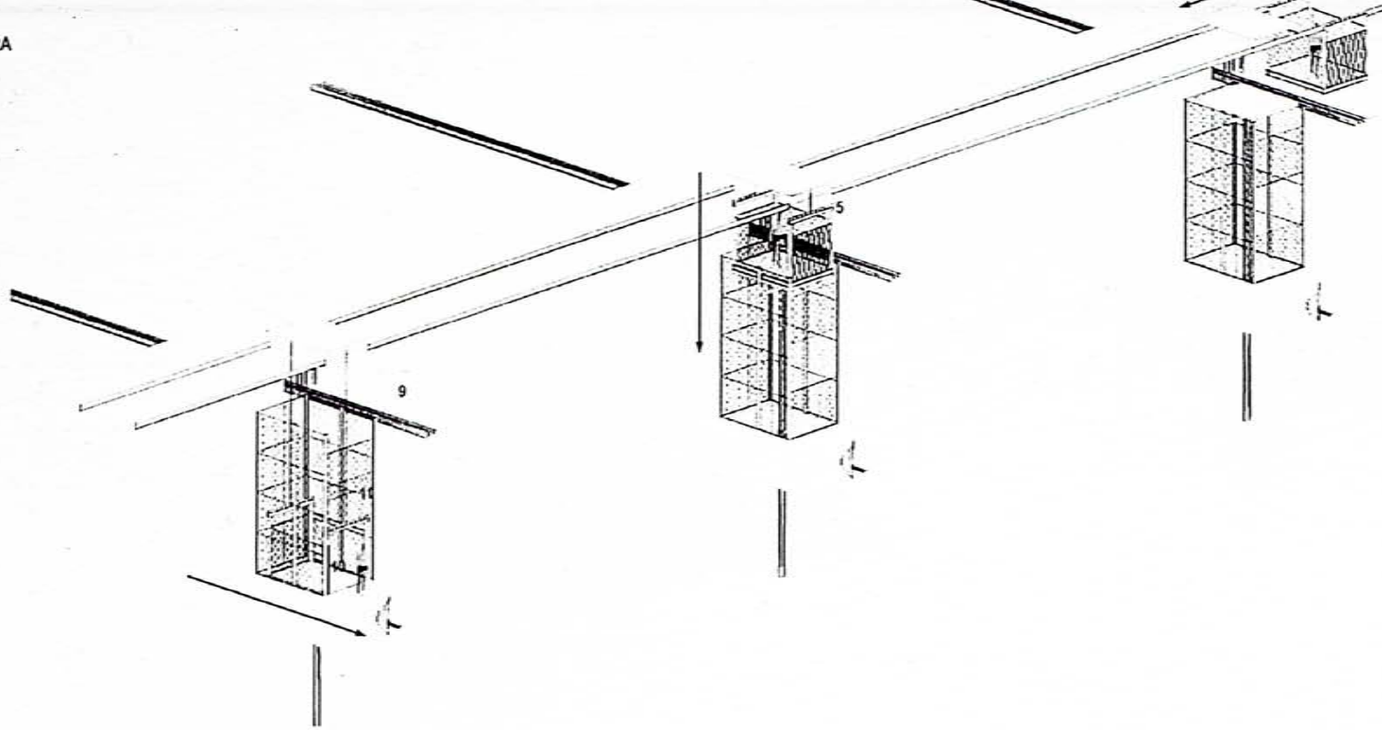
LAVATORY UNIT

KITCHEN UNIT

EMU

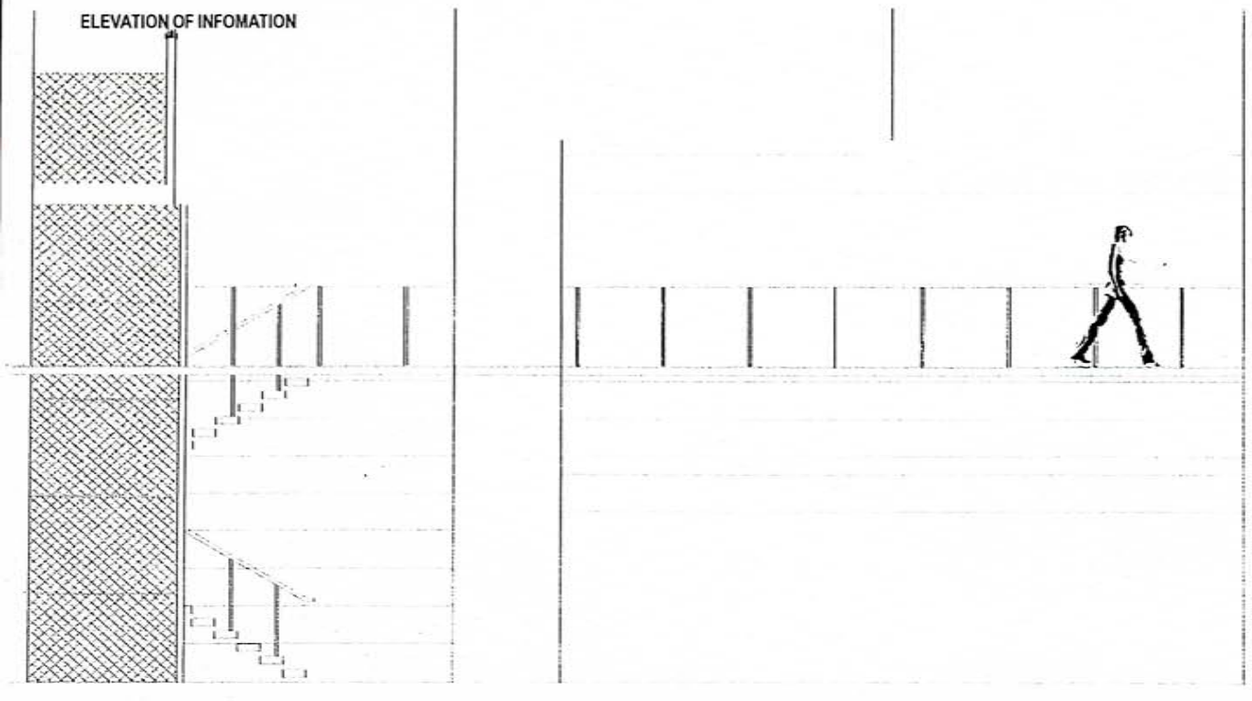


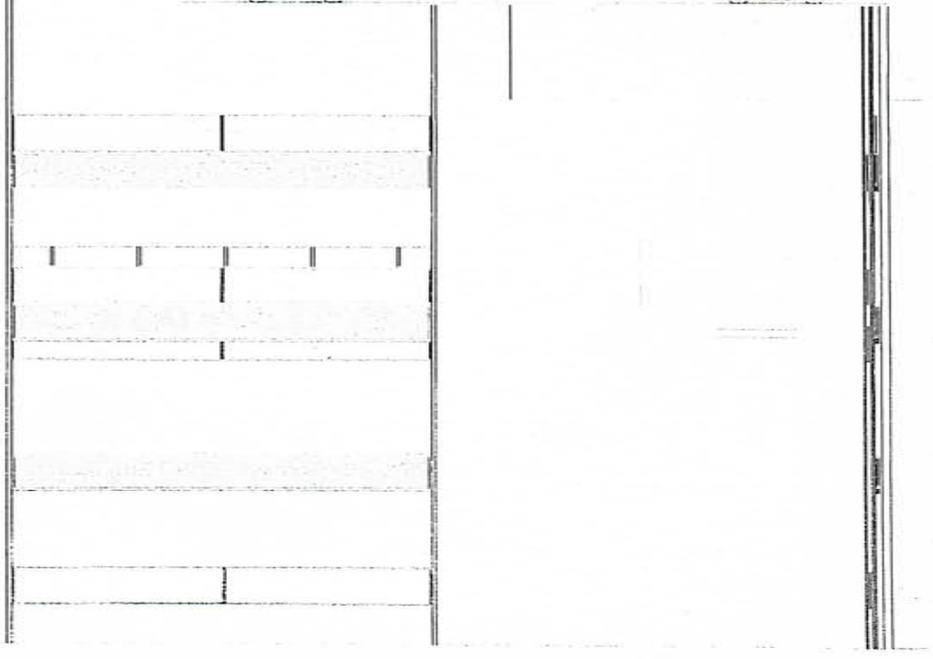
TRA

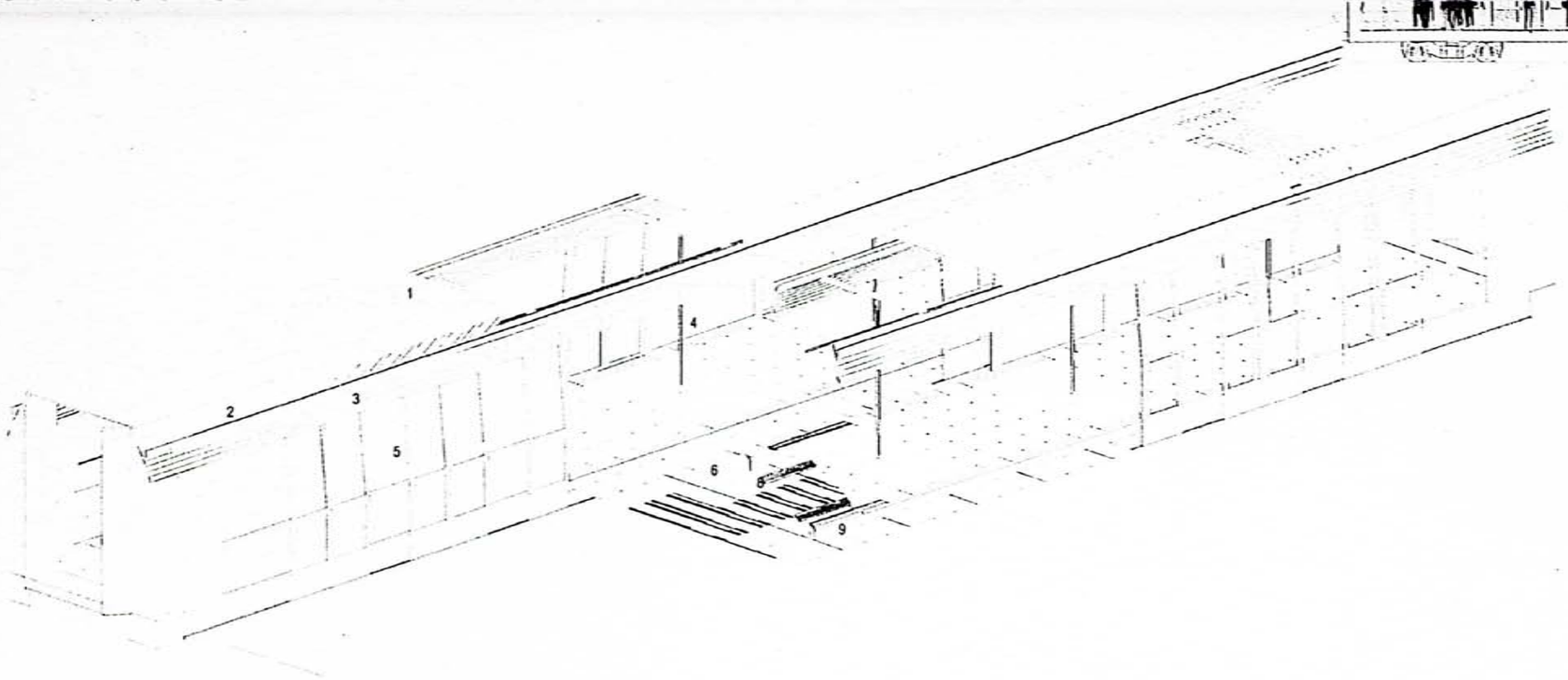


1 transverse rail
2 1.25mX1.9m carriage
3 bearing wheel
4 lift shaft
5 movable rail with belt attached to the ceiling
6 hydraulic piston
7 cylindrical axle
8 hydraulic pump
9 sprinkler pipes and electrical trunking
10 folding gate of the carriage
11 vertical sliding gate of teh lift shaft

ELEVATION OF INFOMATION

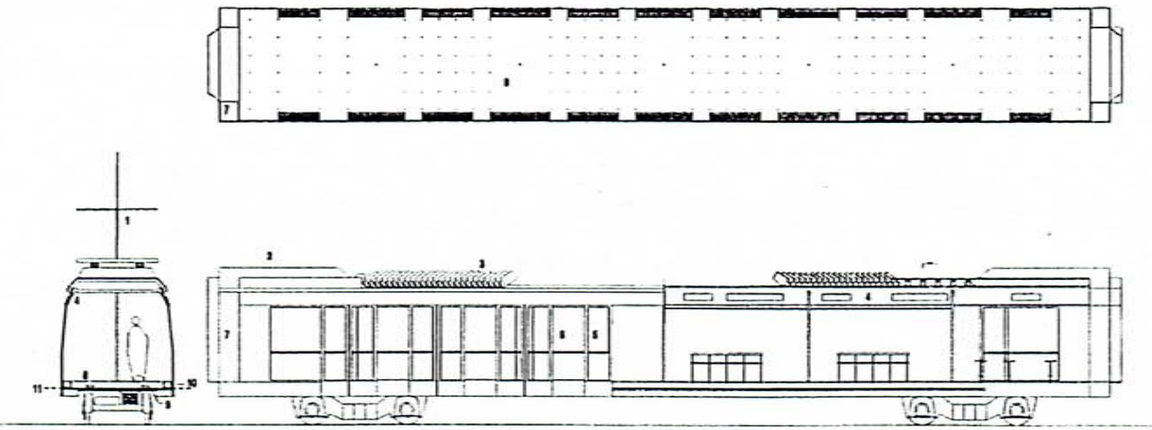




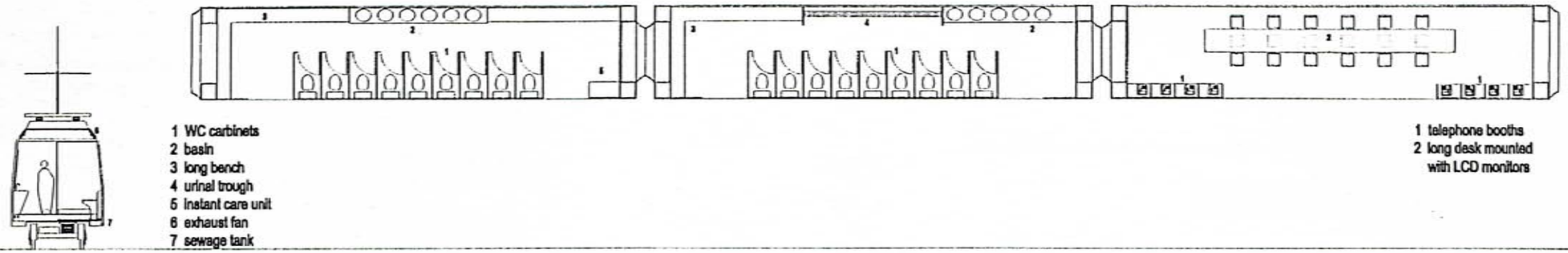


1 foldable roof blinds
2 gutter
3 lighting/ signal bar
4 holding rail
5 sliding door/silding cladding
6 connection floor plat on bearing wheel
7 raised floor with conditioned air from below
8 chilled water pipes
9 return air grills
10 conditioned air outlet/ furniture plug-in

1 high voltage power contact
2 cooling fan
3 foldable roof blinds
4 lighting/signal bar
5 sliding door
6 sliding panel
7 air handling unit
8 raised floor with conditioned-air outlet/ furniture plug-in
9 chilled water pipes
10 return air grills
11 sliding connection floor panels



TYPICAL EMU SERIES

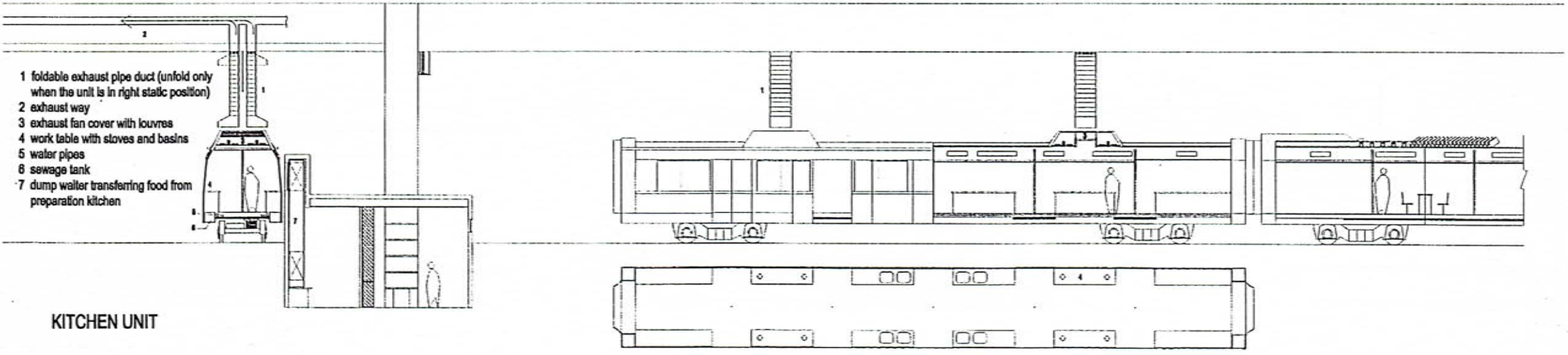


1 WC carbinets
2 basin
3 long bench
4 urinal trough
5 instant care unit
6 exhaust fan
7 sewage tank

LAVATORY UNIT

1 telephone booths
2 long desk mounted with LCD monitors

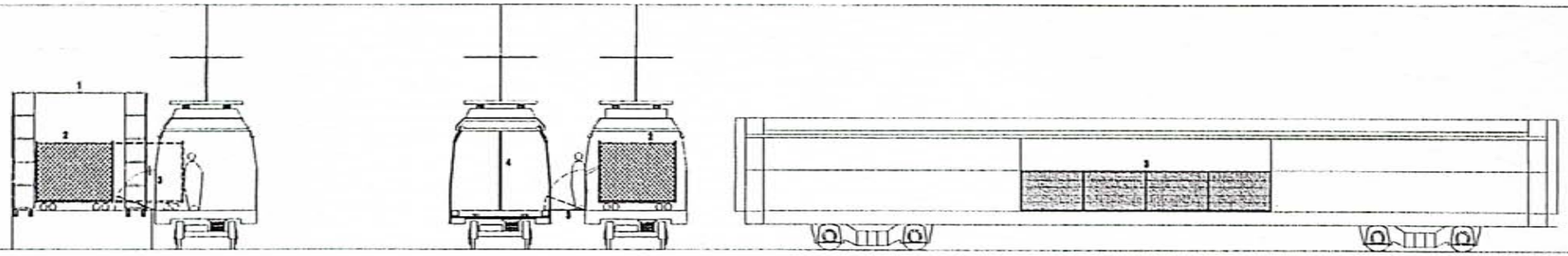
TELEPHONE AND INTERNET UNIT



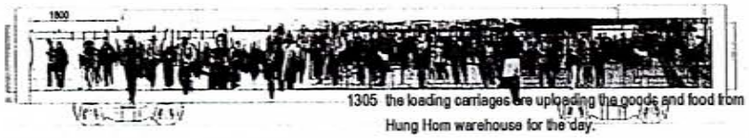
1 foldable exhaust pipe duct (unfold only when the unit is in right static position)
2 exhaust way
3 exhaust fan cover with louvres
4 work table with stoves and basins
5 water pipes
6 sewage tank
7 dump waiter transferring food from preparation kitchen

KITCHEN UNIT

1 storage shelves attached to the rail
on the platform
2 storage cart
3 folding gate
4 typical EMU series

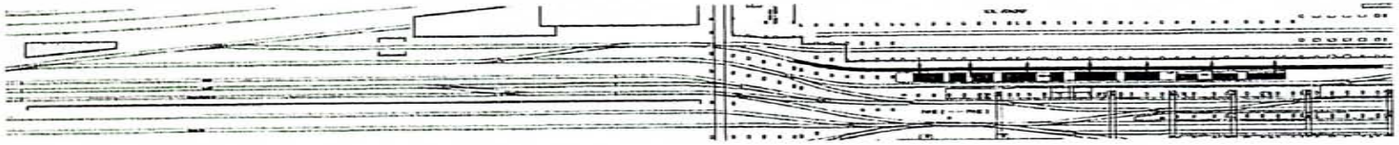


LOADING/INSTALLATION UNIT

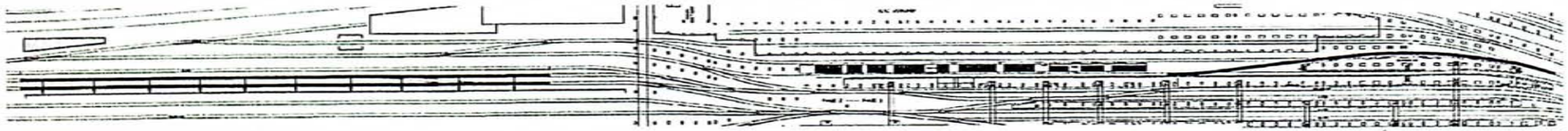


1305 the loading carriages are uploading the goods and food from Hung Hom warehouse for the day.

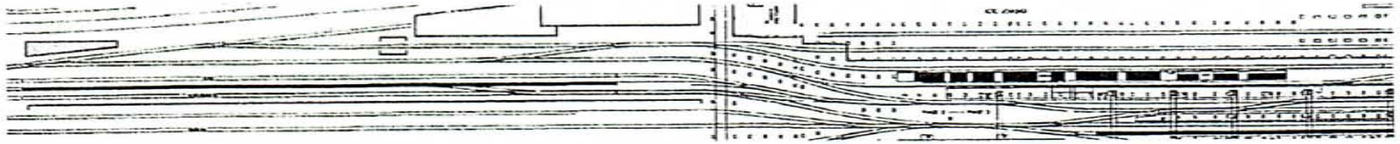
LOADING/ UNLOADING PROCEDURE



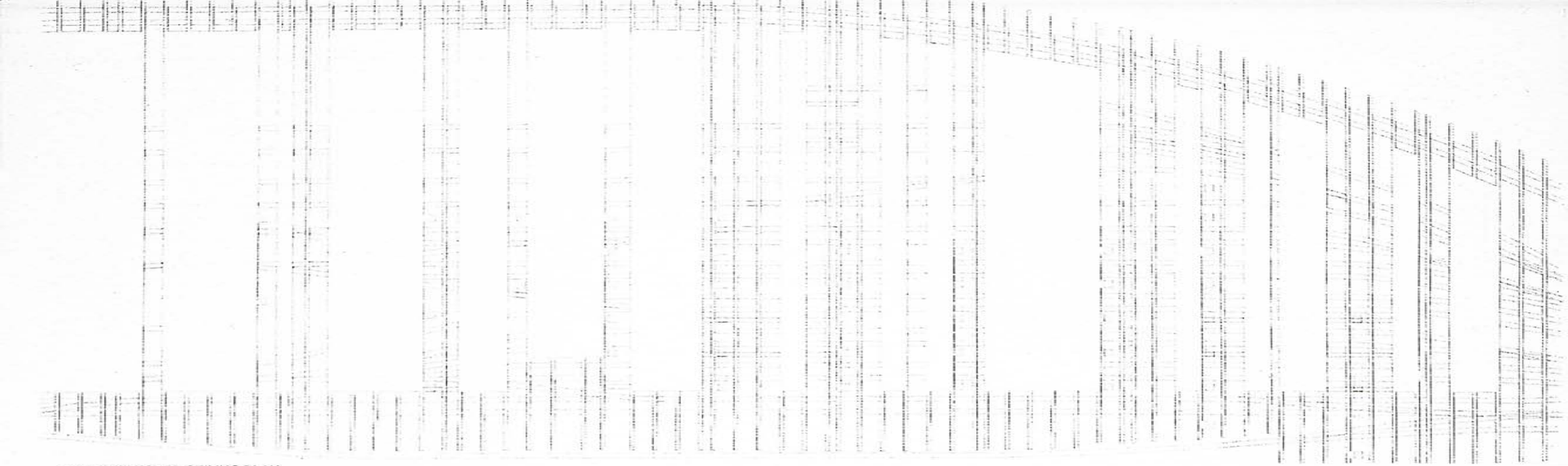
1530 the loading carriages are back to Fo Tan and unload the stuff to
the storage shelves.



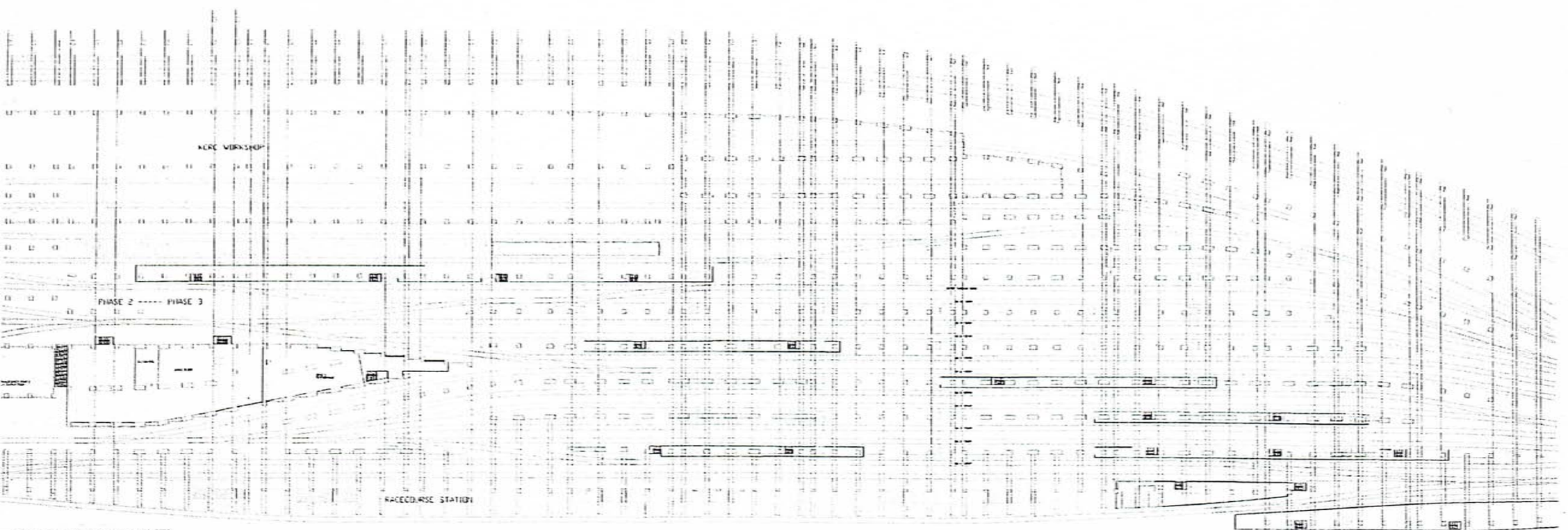
2115 furniture and goods are loaded from the storage shelves to the
carrieges, and then installed to the normal EMU series after cleansing up.



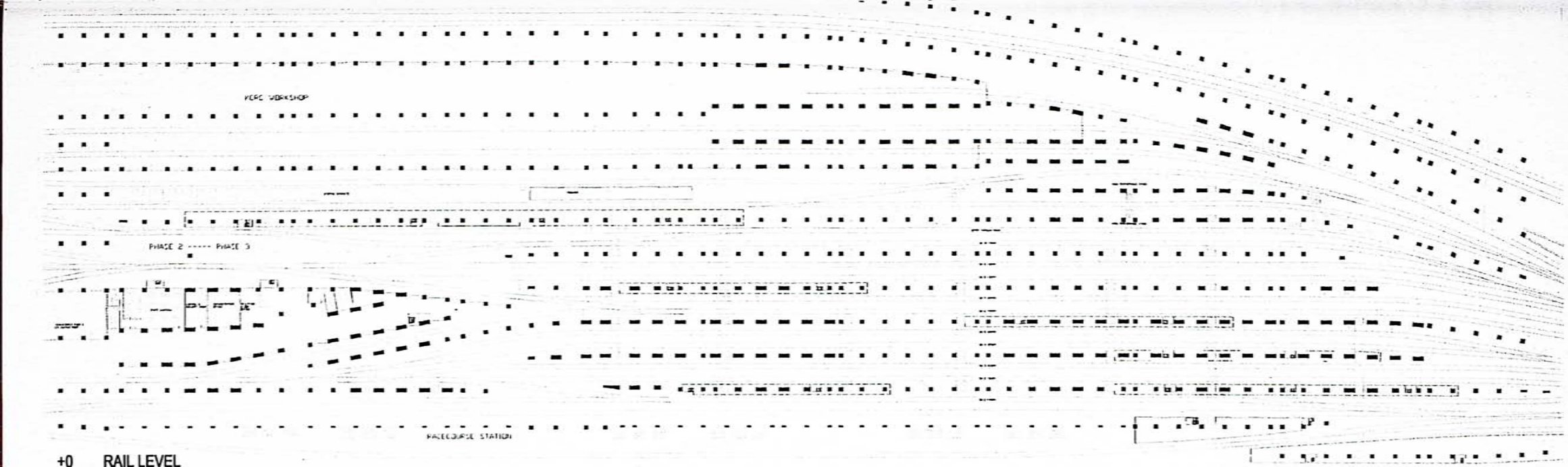
2145 installation completed. the EMU series go to the right lane/ go
out to the stations to pick up the passengers and the programme
starts.
next EMU series starts installation.



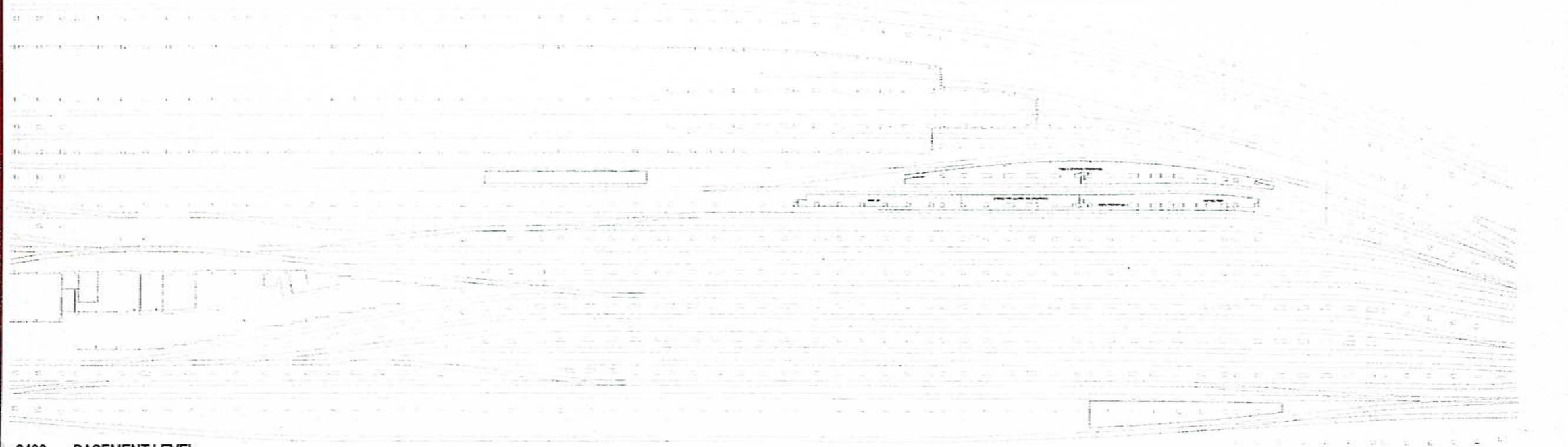
+9000 REFLECTED CEILING PLAN



+4500 PLATFORM LEVEL



+0 RAIL LEVEL
+1150 TRAIN & PLATFORM LEVEL



-2400 BASEMENT LEVEL

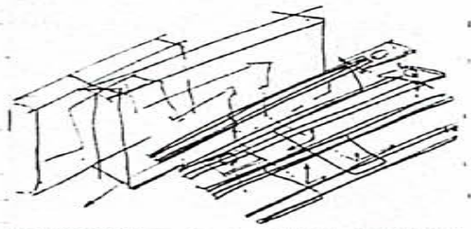
CIRCULATION PATTERN

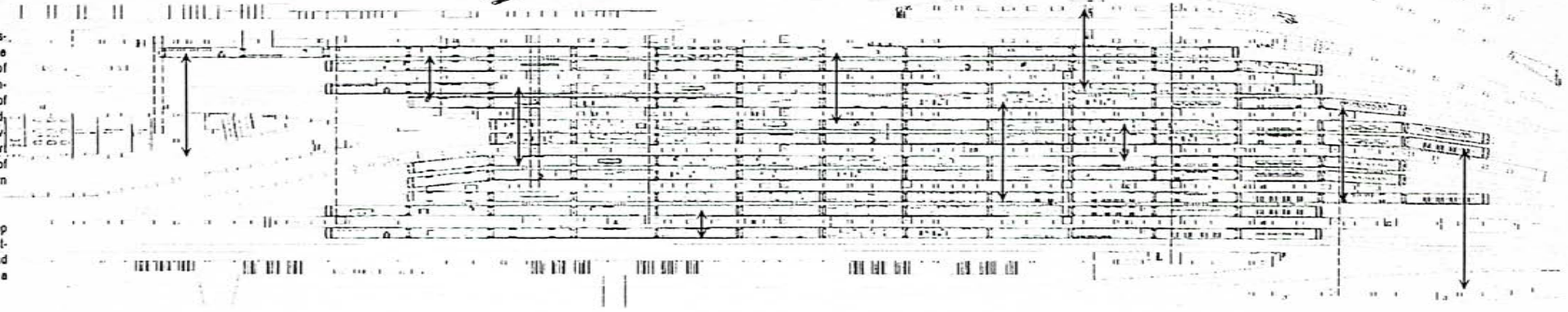
Every train has its own schedule of programmes and relevent timetables. The depot is where the trains have different compositions every night. This kind of "bombardment" is random yet pre-calculated. For there are 27 train series under the programme each night, each having 4 EMUs, the probability of meeting the same compartment would be:

$$\frac{1}{27 \times 4} = \frac{1}{108}$$

Trains are in "pause" condition by the depot, passengers are freely permeable to get through one another, where different combinations of compartments, together with the static attachments are forming different scales of "pockets" of functions. The circulation pattern are form according to these organizations of pockets. When every time a train is under its schedule to depart while another arriving, these compositions of pockets are reorganized and the moving pattern of the passengers are altered.

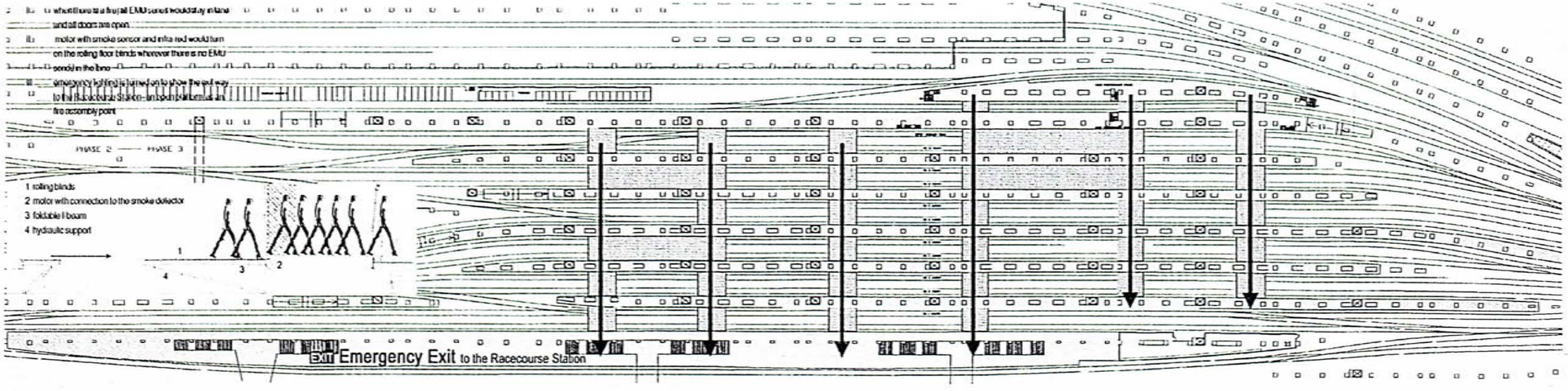
Throughout the night, the passengers may keep on moving around the depot with its unpredictable pattern according to time, or move in and out the depot along the railway staying with a particular programme.

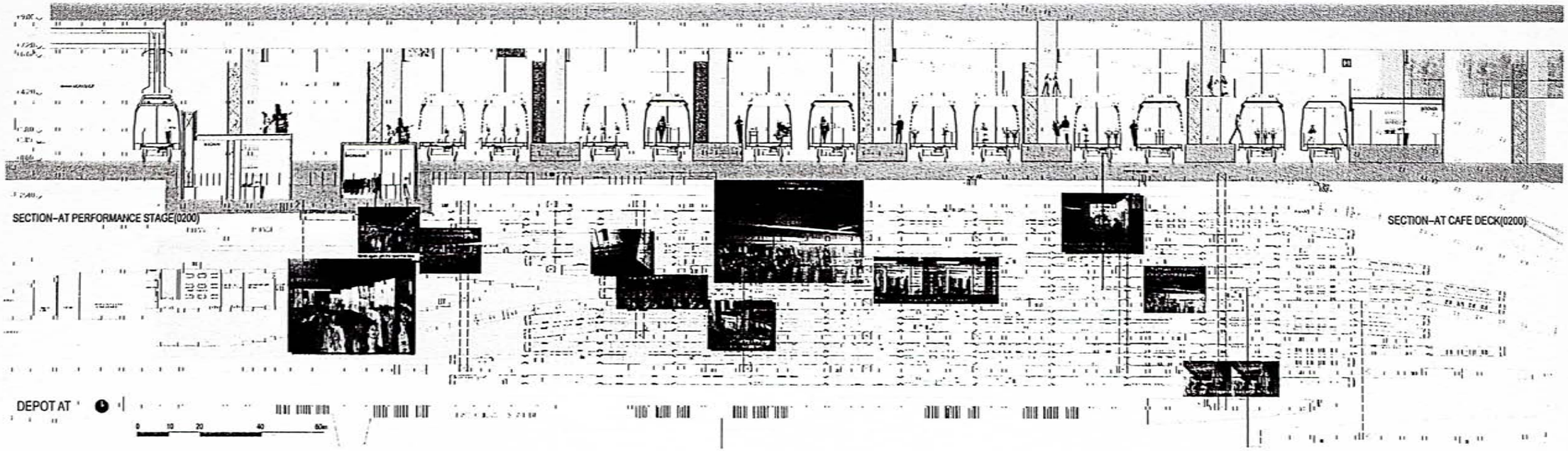


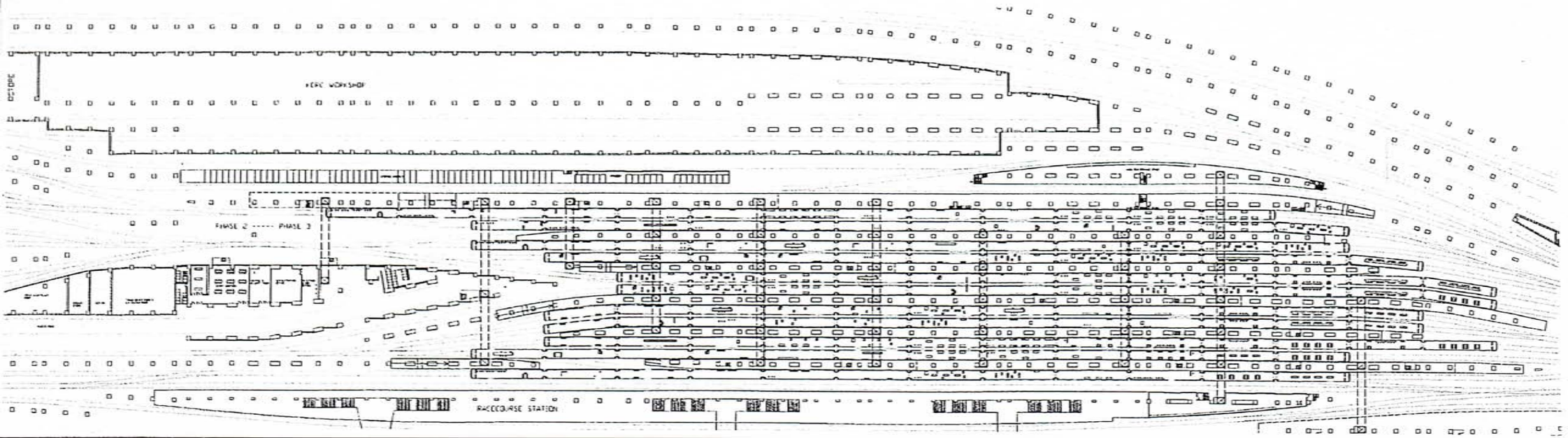


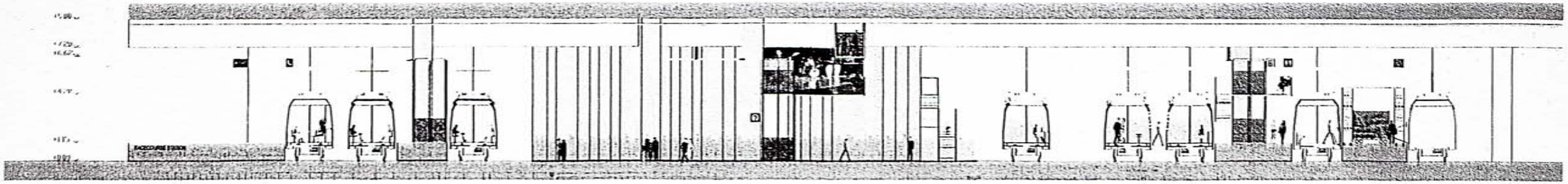
...VARYING TIME & PROGRAMME

Working Principle



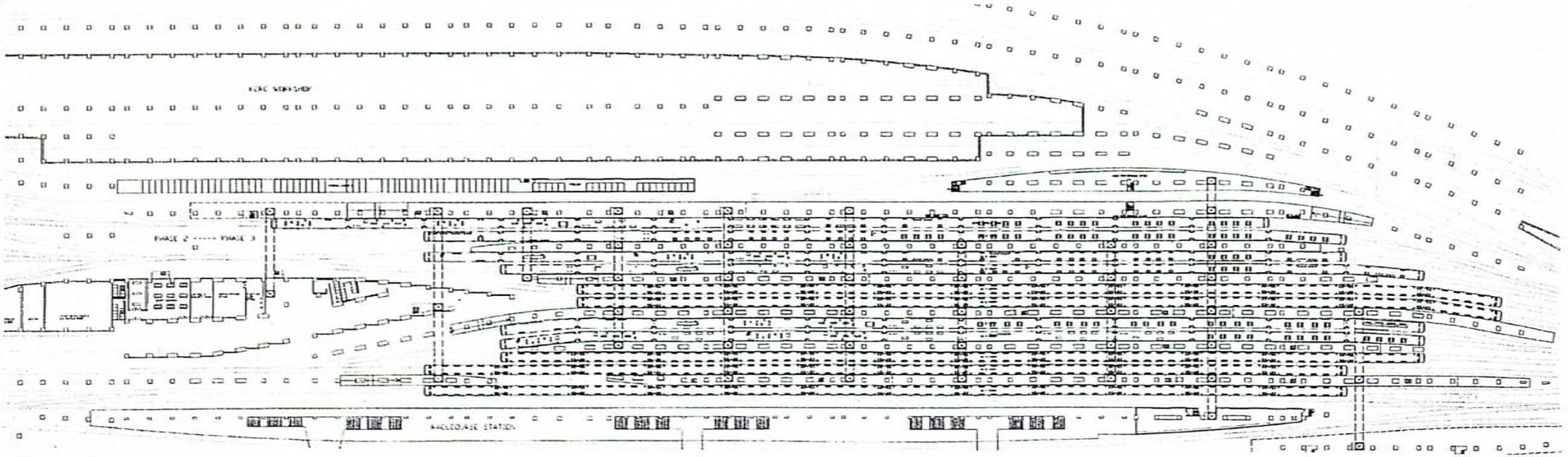

SECTION–AT PERFORMANCE STAGE(0200)
SECTION–AT CAFE DECK(0200)
DEPOT AT
0 10 20 40 60m

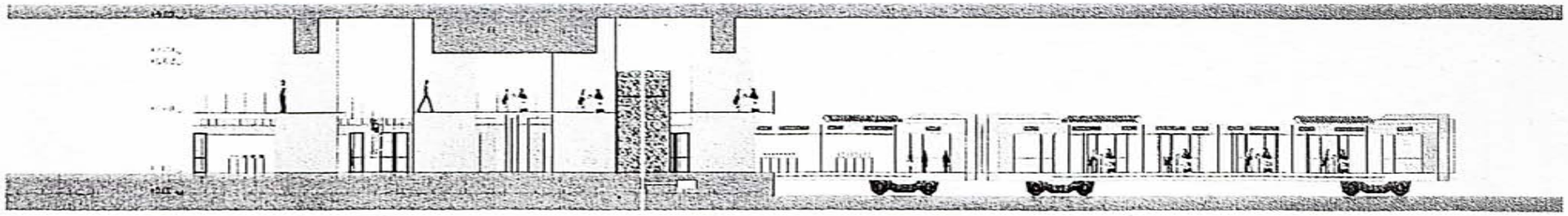

DEPOT
HERC WORKSHOP
PHASE 2
PHASE 3
RACECOURSE STATION



SECTION–IN FRONT OF THE DANCE POOL(0500)

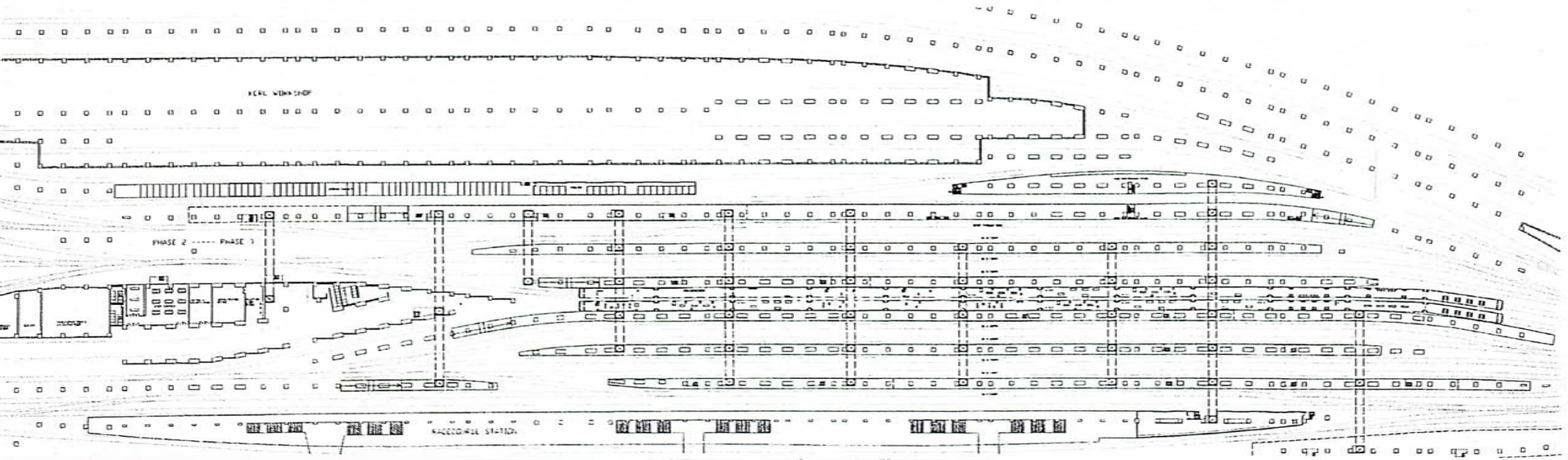
DEPOT AT

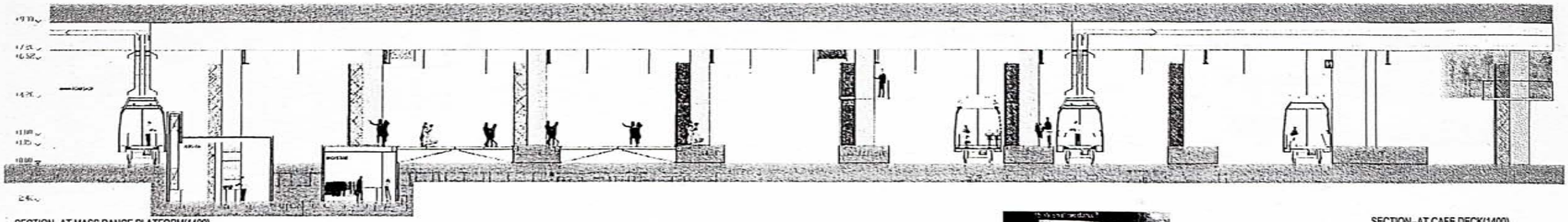




SECTION-AT MARKET & RESTAURANT(1100)

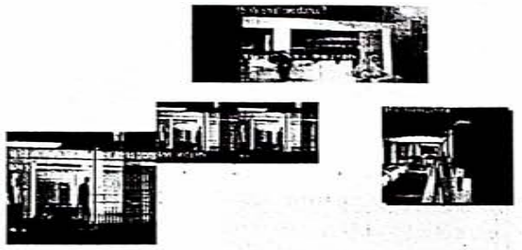
DEPOT AT



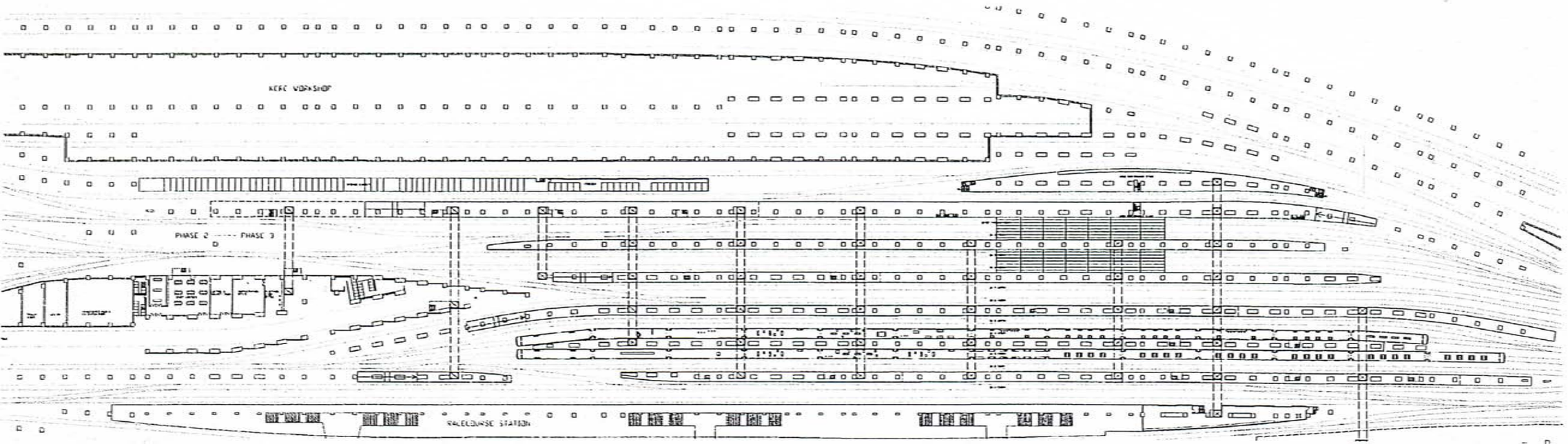


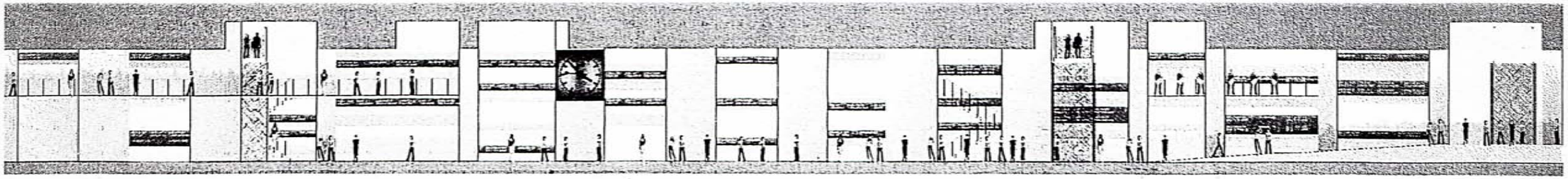
SECTION–AT MASS DANCE PLATFORM(1400)

SECTION–AT CAFE DECK(1400)



DEPOT AT

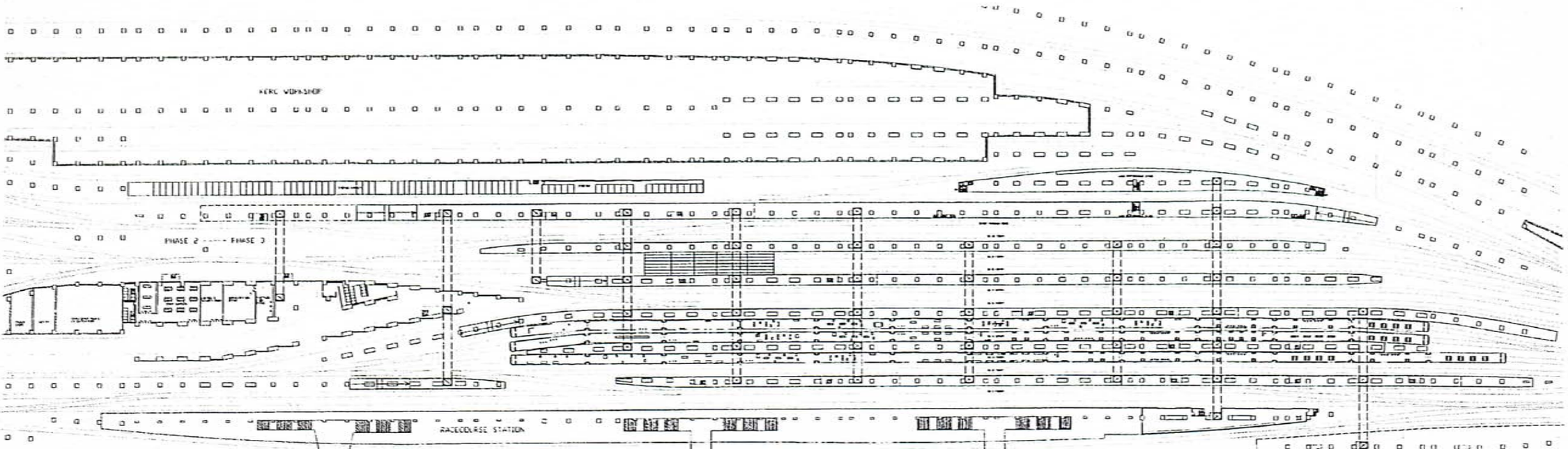


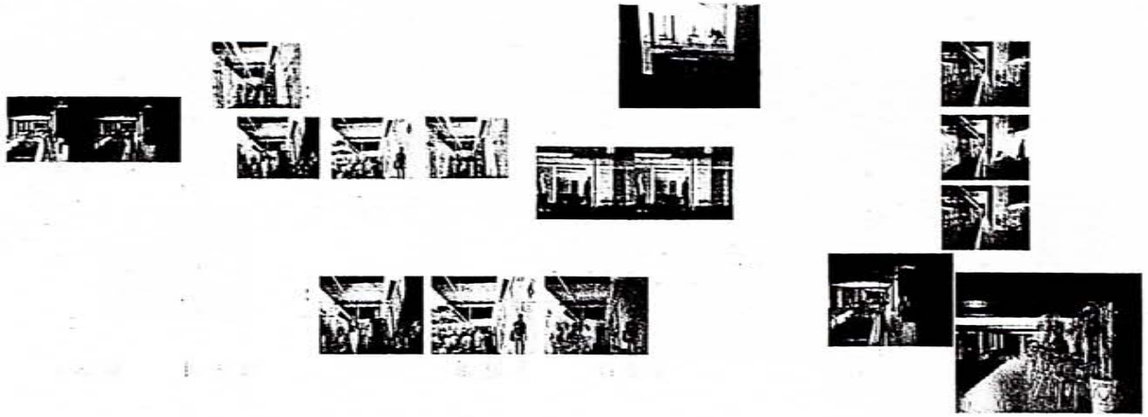


SECTION–BY THE SIDE OF THE DANCING POOL(2200)

DEPOT AT ❹

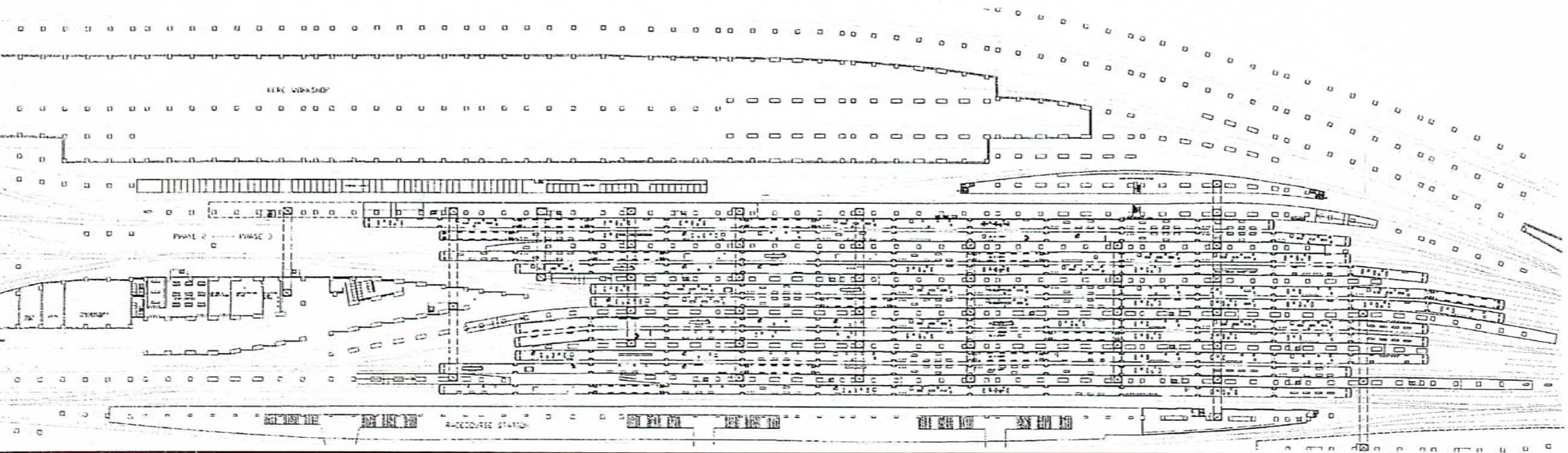
0 10 20 40 80m



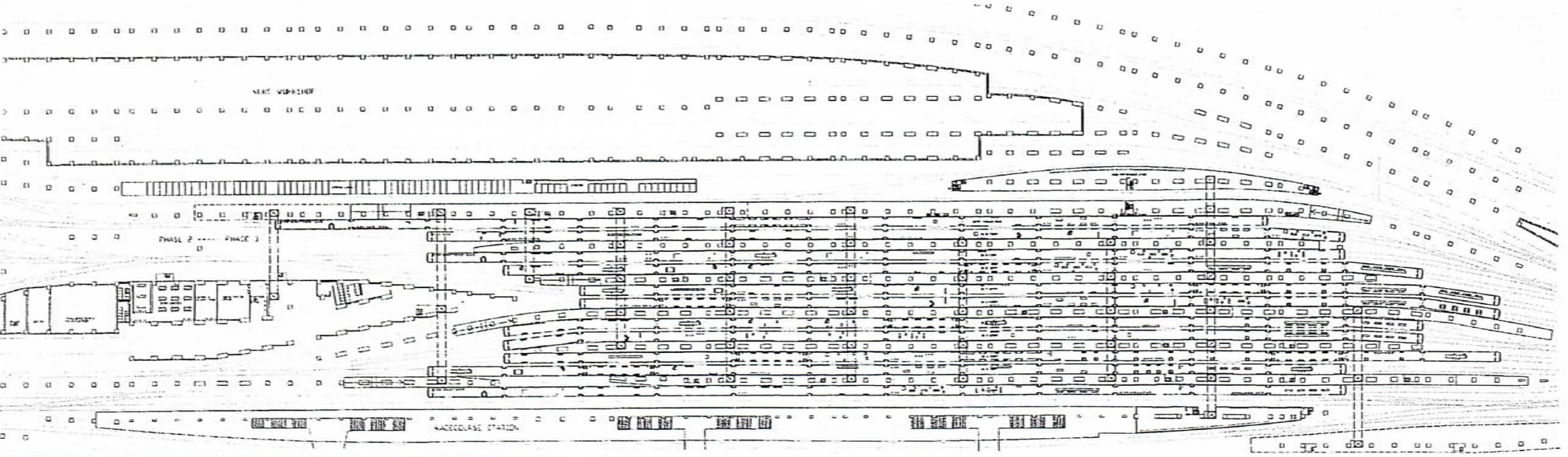


DEPOT ON LUNAR NEW YEAR EVE

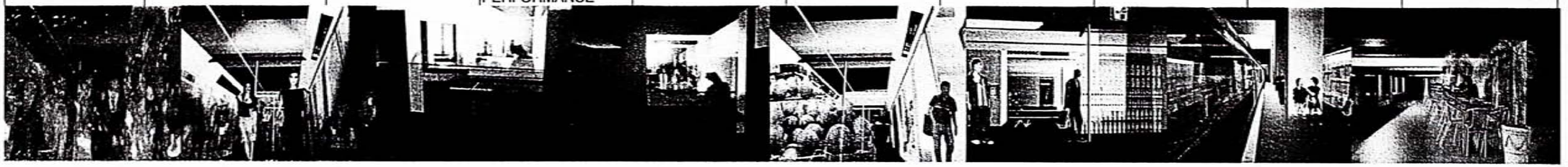
0 10 20 40 60m

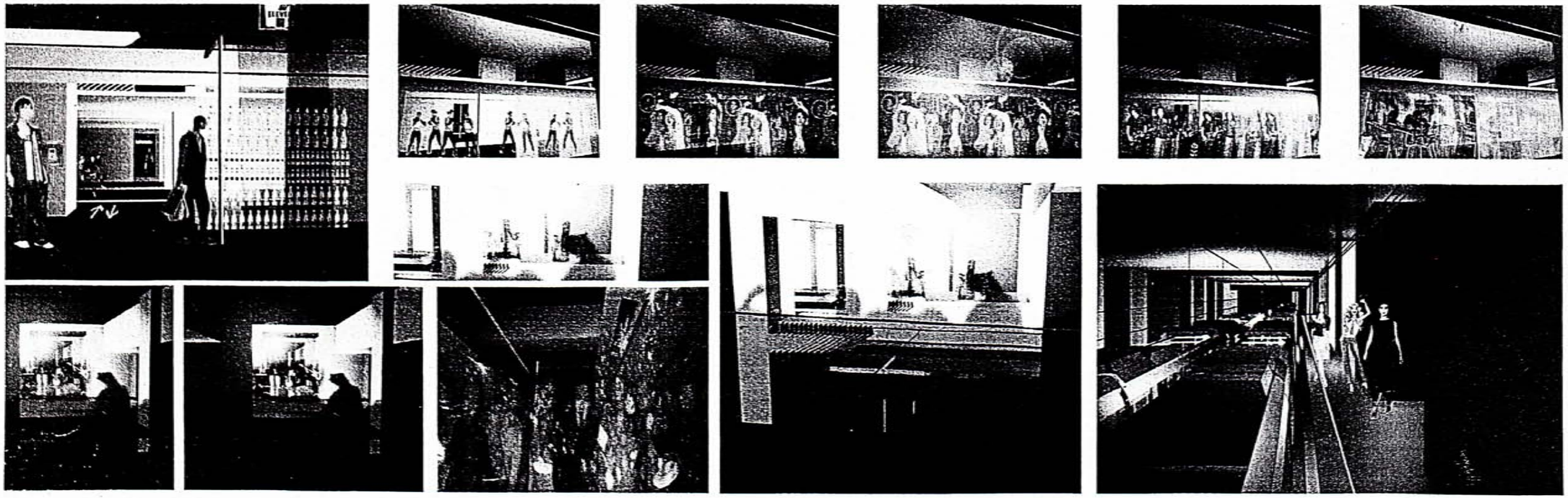


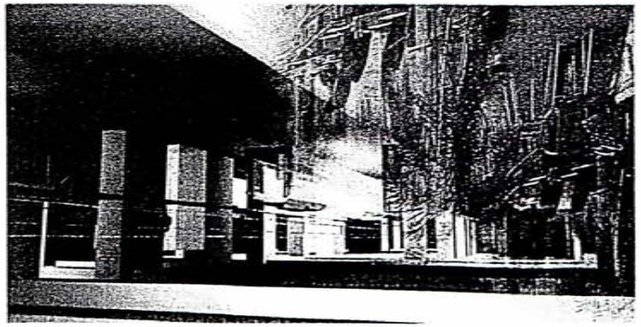
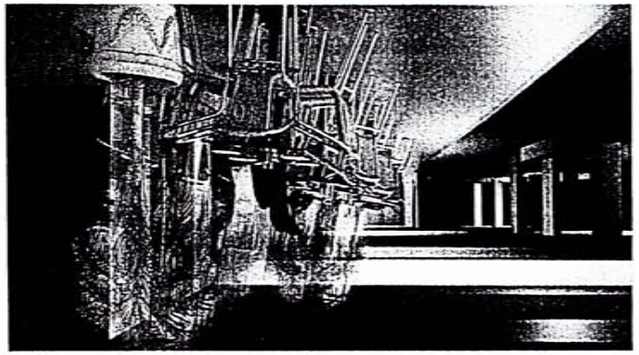
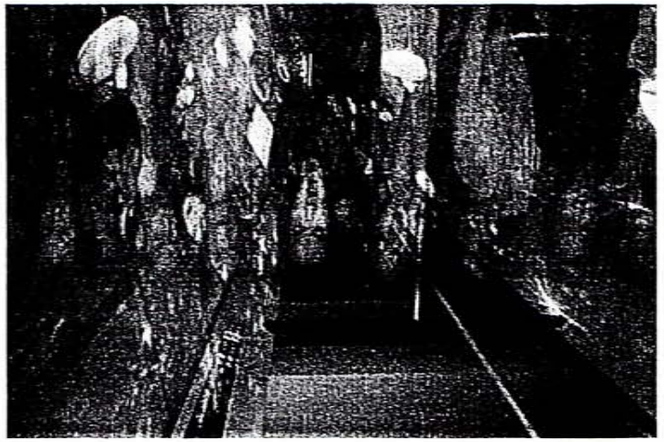
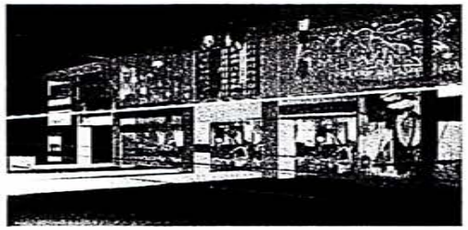
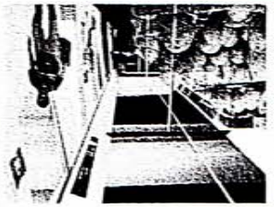
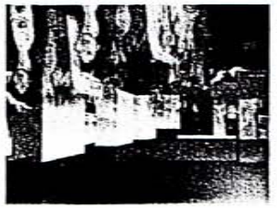
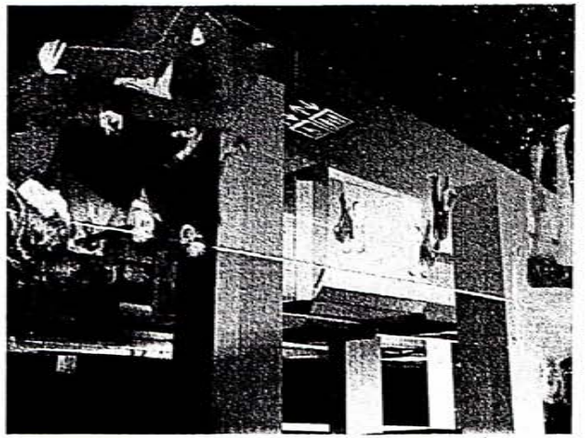
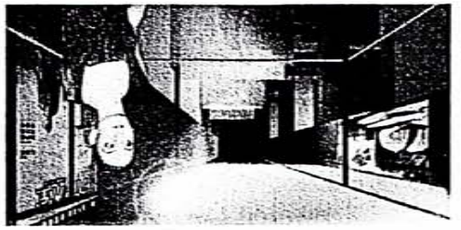
DEPOT ON X'MAS EVE

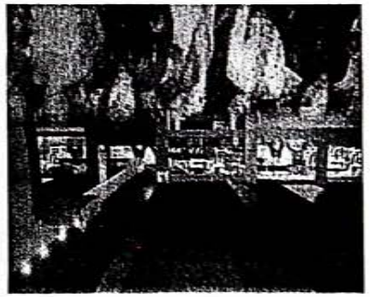
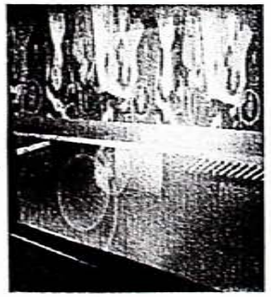


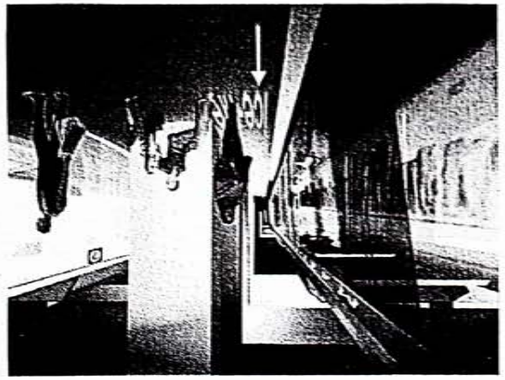
Elements/ Time	1130-0300	1300, 0200	1400-1600	2130-1130	2130--	1100-1600	2130-0100	2130-1130	2200-0300
Train compartment A	Dance pool	Audience						Sittings	
Train compartment B	Dance pool	Performance	Transportation for mass	Transportation for mass	stalls	Commodity promotion	Food stall	Service counter	Bar tender
Train compartment C	Dance pool						Sittings	Sittings	Sittings
Columns/ Beams	Sensation matrix Reflections and Projections		Supplementary projections	Sensation matrix	Promotion			Directional signage	
1150 Platforms	Pool flow	Connections	Mass audience	Mass audience	Public circulation Sittings		Circulation	Circulation	
4500 Platforms	Viewing and chatting	Viewing deck	Viewing deck	Viewing deck				Sitting Viewing deck	Sittings Viewing
Attachments	Dance pool Band/ performace		Backstage Performance	Projection screen				Kitchens	Sittings Viewing
Service track	Transportation Lavatories		Transportation of goods Installations		Installation,			Food transportation	
H-V travellators	Transportation								
Scenario	RAVE PARTY	MOBILE SHOW	STAGE PERFORMANCE	VIDEO/MEDIA SHOW	NIGHT MARKETS	PROMOTION UNITS	FOOD STALL	CAFETERIA	PUB

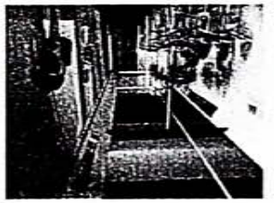
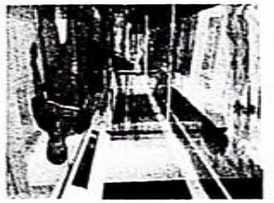
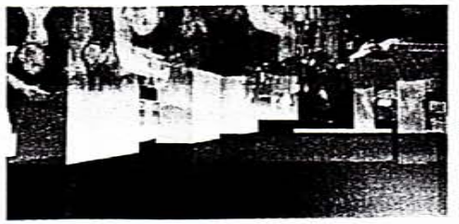
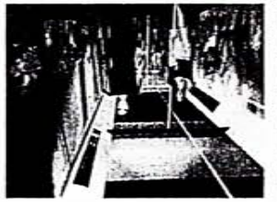


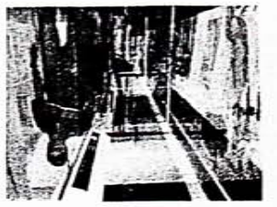
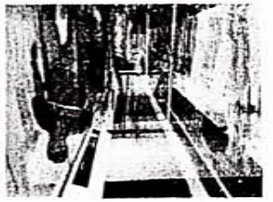
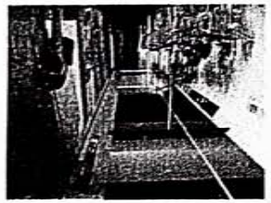
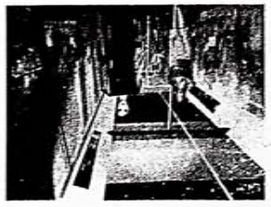




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