

P5 Presentation Elmer Pietersma

Katoenveem





The studio

DES IGN

HARBOUR HERITAGE



After 1950, harbour activity started to move towards the west, away from the city centre

Illustration by Jacqueline van der Aart



The student



My interests lie with **architecture**, **photography** and **theatre**



The story arc of the Katoenveem

Act 3 Resolution

Act 1: meeting the main character

Setting, describing the character, back story inciting incident

Act 2: rising action

Requirements for the new function, problems with fitting the existing and new together

Act 3: falling action and resolution

What consequences and results follow

The story arc of the Katoenveem

Act 1: Meeting the main character

Staging Describing the character The back story Inciting incident

Staging



Location of the Katoenveem in Rotterdam illustration by Joost van den Berge

10



Location of the Katoenveem in Rotterdam Image from Google Maps

11





Describing the character (exterior)









Monument Complex value















Exterior in bad shape

No longer in use









Harbour area, end of the pier

Derelict warehouse in between new activity

Overhanging roof and bal- Exterior in bad condition, cony, horizontal lines

building no longer in use

Describing the character (interior)





Fire proofing



Fire proofing

The back story

Historic picture of the interior

Photograph from Stadsarchief Rotterdam (1952)



The cotton bales

all ten



The traveller system



The operator



The gathering of cotton bales



The whole system



The walkways allowing for operating of the travellers



The structure supporting the transport and walkways


The sprinklers protecting against fire

Adaptation by Elmer Pietersma Photograph from Stadsarchief Rotterdam (1952)



The movable lights for operating in darker times

Adaptation by Elmer Pietersma Photograph from Stadsarchief Rotterdam (1952)







The process of loading and unloading the cotton from ships and trains formed the Katoenveem complex

illustration by Audrey Loef





The process of loading and unloading the cotton from ships and trains formed the Katoenveem complex

illustration by Audrey Loef

40





The process of loading and unloading the cotton from ships and trains formed the Katoenveem complex

illustration by Audrey Loef



Historic images showing the traveller system installed on cranes and bridges between the warehouses

photograph from Stadsarchief Rotterdam



Collage showing the historic activity at the complex

illustration by Audrey Loef



illustration by Audrey Loef

Collage showing the current state of the complex

illustration by Audrey Loef



Designed for cotton storage and transshipment Traveller system to transport the cotton

Monolithic concrete structure



Loss of complex value, no longer in use

The inciting incident



Harbour area moving towards the west



Changing usage of the area shifting from industrial to urban

Act 2: Resolving the problems

Identifying the important elements Dreaming of a new life Requirements Starting points Identifying the conflicts

Identifying the important elements



Cultural Value assessment matrix group effort, base provided by the chair of Heritage and Architecture BELEVINGS-WAARDE

operating years of the Katoerween. for the inflammable goods, cotton. cotton from overheating. In redever- loping skylights can be used to orate pleasant indoor climate. rate examples of Hendbugger entrifor- ced concrete system used on a con- merchanger. rate examples of Hendbugger entrifor- ced concrete system used on a con- merchanger. rate examples of Hendbugger entrifor- ced concrete system used on a con- merchanger. rate examples of Hendbugger entrifor- ced concrete system used on a con- merchanger. rate examples of Hendbugger entrifor- ced concrete system used on a con- merchanger. rate examples of Hendbugger entrifor- ced concrete system used on a con- merchanger. rate examples of Hendbugger entrifor- ced concrete system used on a con- merchanger. rate examples of Hendbugger entrifor- tor concerted system used on a con- merchanger. rate examples of Hendbugger entrifor- tor concerted system used on a con- merchanger. rate examples of Hendbugger entrifor- tor concerted system used on a con- merchanger. rate examples of Hendbugger entrifor- tor concerted system used on a con- merchanger. rate examples of Hendbugger entrifor- tor concerted system used on a con- merchanger entrifor- tor concerted system used on a con- placed along the pige								
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$ \left \begin{array}{cccc} & & & & & & & & & & & & & & & & & $	SITE		The two piers are old crane foun- remain dations, showing traces of an old	The pier is still used similairly, using trucks instead of trains and boats.	X	X	The only cotton storage in the Netherlands	2
Tardwardson of the state stat	SKIN	 weatherworn skin and clear 	- still present original texts on walls - Skin is designed in order to and doors, which tell functionality and create maximum usibility for it's	X	X	 Deliberate lining and suggestion of hardstone decoration around windows as a reference to dwelling architecture in Rotterdam in the 	X	
PLAN A The parent concentrations are parent concentrating are	STRUCTURE	lumns in the halls is the evidence of the	cent compartments is a special design linked to the original use of the building	provide indirect sunlight. It prevented cotton from overheating. In redeve- loping skylights can be used to create	Х	X	of the building is one of the earlier and rare examples of Hennebique reinfor- ced concrete system used on a cotton	S tl e:
SURFACES Surfaces <th< td=""><td>SPACE PLAN</td><td>X</td><td>placed along the pier. The efficiency of waterway and railway transportation, and the storage of cotton was the pri-</td><td>space of each compartment has the potential to be used for many purposes, such as warehouse, art studio, sports</td><td>X</td><td>X</td><td>cotton(upper drawing) are intercon- nected by the walkways and outdoor</td><td>W us pa m th</td></th<>	SPACE PLAN	X	placed along the pier. The efficiency of waterway and railway transportation, and the storage of cotton was the pri-	space of each compartment has the potential to be used for many purposes, such as warehouse, art studio, sports	X	X	cotton(upper drawing) are intercon- nected by the walkways and outdoor	W us pa m th
Present original equipment and systems such as the total plan of serving as optimized present original equipment and systems such as the total plan of serving as an kerner in through spatiant. Either convergine is the decay has occurred the parts that remain give an historic inside. All original equipment and systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts that remain give an historic inside. The innovative freesystem along with systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts that remain give an historic inside. The innovative freesystem along with systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts that remain give an historic inside. The innovative freesystem along with systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts that remain give an historic inside. The innovative freesystem along with systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts that remain give an historic inside. The innovative freesystem along with systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts that remain give an historic inside. The innovative freesystem along with systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts that remain give an historic inside. The innovative freesystem along with systems such as the total plan of serving as cranes. convergine is the decay has occurred the parts convergent. The innovative freesystem along with systems such as the total plan of serving as cranes. convergent is the decay has occurred the parts convergent. The innovative freesystem along with systems such as the decay has occurred		 damages of use and cotton bale movement weatherworn surfaces and clear signs of erosion and rust on walls, structures, 	-Tages of wooden formatic digity the way	Х	Х	X	Х	
STUFF X X X X X X	SERVICES	systems, like the conveyor, lights, fans, pulley and travellers suggest traces of a past life. Eventhough the decay has occurred the parts that remain give an	cranes, conveyor, lights, fans, bridges, travellers, watertower, pipes, sprinkler, cart and pulley are reffering to the for its time advanced functi-	still have a potential of use, parts could be serving future programming of the building. Lightss by electricity and armatures, natural ventilation by fans	Х	X	waterstorage and keeping it on pres- sure to safeguard against fire through sprincklers of the pinnel type inventive	B sy ai th m
	STUFF	X	X	X	Х	Х	Х	

Cultural Value assessment matrix

group effort, base provided by the chair of Heritage and Architecture

52



RIEGL X BRAND	AGE	HISTORICAL	USE	NEWNESS	ART	RARITY	
SURROUN- DING SETTING	- Derelict industrial buildings in the area	Traces of train tracks Part of the harbour Traces of former activity	X	Х	Х	Х	
SITE	-Traces of removed buildings	- Traces suggest a complex - Traces suggest a complex - The two piers are old crane foun- diatons, showing traces of an old infrastructure - Old partitions of the outside wall still remain	The pier is still used similarity using trucks instead of trains and boats.	X	Х	- The only cotton storage in the Netherlands	
SKIN	- dated appearance - watherworrs skin and clear signs of rootsion and rust	- traces of formerly present steel bridges and blos on skin and gallery's - still present original texts on walls and doors, which tell functionality and division	X	X	Deliberate lining and suggestion of hardstone decoration around windows as a reference to dwelling architecture in Rotterdam in the beginning of the 20th century	X	
STRUCTURE	The abrasion on the free standing co- lumns in the halfs is the evidence of the operating years of the Katoenveem.	The dilatation between any two adjaction of the inflammable goods, cotton.	Northern orientation of skylights provide influence sunlight. It prevented cotton from overheating. In redeve- ioping skylights can be used to create pleasant indoor climate.	Х	Х	Building in construction. The structure of the building is one of the earlier and rare examples of Henneblugue reinfo- col concrete system used on a coston account of the structure of the struc	Sti th ex
SPACE PLAN	Х	The five parellel compartments are placed along the pier. The efficiency of waterway and railway transportation, and the sources of the space plan layout.	With a little restoration, the huge, tall space of each compartment has the potential to be used for many purposes, such as warehouse, art studio, sports fields, church, etc.	Х	Х	The five separated compartments for cottonlopper drawing) are interconnected by the walkways and outdoor galleries for workers(lower drawing).	Wi uso pa ma tho
SURFACES INTERIOR	dated appearance dated appearance damages of use and cotton bale movement weatherworn surfaces and clear signs of ension and rust on walls, structures, doers and windows	- Traces of wooden formwork display the way the building was manufactured	X	Х	X	Х	
SERVICES	Present original equipment and systems, like the conveyor, lights, fans, pulley and travellers suggest traves of a past life. Eventhough the decay has occurred the parts that remain give an historic inside.	All original equipment and systems such as the total plan of serving as ranes, conveyor, lights, fans, bridges, travellers, water tower, pipes, sprinkler, cart and pulley are referring to the for its time advanced functi- onality of the building as cotton warehouse.	Since present systems and equipment still have a potential of use, parts could be serving future programming of the building. Lights by electricity and armatures, natural ventilation by fans through wind, transport and carrying of stuff along the kept conveyor.	Х	Х	The innovative firesystem along with waters storage and keeping it on pre- sure to safeguera against fire through sprinklers of the ginnel type, inventive first is period an improvement for the service of its functionality	By sy: an thi
STUFF	X	X	Х	Х	Х	Х	

Cultural Value assessment matrix

group effort, base provided by the chair of Heritage and Architecture

1 Marine - Strong harbour feel - Free space on either sides - Far view over the water

By the present original equipment and systems suggest traces of past live and existence of a workers process, there is a chance and imagination of movements

X

RIEGL X BRAND	AGE	HISTORICAL	USE	NEWNESS	ART	RARITY	
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SITE	- Traces of removed buildings	- Traces suggest a complex - The two piers are old crane foun- dations, showing traces of an old infrastructure - Old partitions of the outside wall still remain	The pier is still used similarly using trucks instead of trains and boats.	X	X	- The only cotton storal in the Netherlands	
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SPACE PLAN	X	The five parellel compartments are placed along the pier. The efficiency of waterway and railway transportation, and the storage of cotton was the primary reason of the space plan layout.	With a little restoration, the huge, tall space of each compartment has the potential to be used for many purposes, such as warehouse, art studio, sports fields, church, etc.	Х	Х	ETTERS EXPENSION The five separated compart ments for contentingue advantig are intercon- rected by the wilknews and outdoor galleries for workerstlower drawing).	W us pa n
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STUFF	X	X	Х	X	Х	Х	

Cultural Value assessment matrix

group effort, base provided by the chair of Heritage and Architecture





Functionally designed

Character of the building



Monolithic concrete structure





Grid structure

Compartments



Tranquil experienc inside



Industrial materialisation

Introvert character



Functionally designed



Horizontal lines on the building



Strong relationship with water

Longitudinal building along the pier

Overhanging balconies & roof



No human scale

Character of the building



elements



Monolithic concrete structure



Grid structure



Compartments



Tranquil experience inside



Industrial materialisation

Introvert character



Functionally designed



Horizontal lines on the building



Strong relationship with water

Longitudinal building along the pier



Overhanging balconies & roof

No human scale

Character of the building



elements

Dreaming of a new life



More **activity** and **innovation**



More **culture** and **possibilities**

Which function fits with the building?



A large scale events terrain



Which function fits with the building?

Tranquil	Loud &	Changing	Necessity	Suitable
experience	dangerous site	environment	at location	at location

Character	€ 10-) 10 10	ABCD	E			1 Hando		Alton T							
Function	Grid	Longitudinal building Compartmen	ts Low rise	Original trans- verse routing	Original services	Missing elements	Introvert character	Relationship with water	Industrial materialisation	Functional design	Tranquil experience	Loud & dangerous site	Changing environment	Necessity at location	Suitable at location
Festival site	+	+ +	-	+	+ +	+		+	+	+	-	+	+	++	+
Art cluster	+ +	+ +		+	+ +	+	-	+	+	+ +	+	+	+	++	++
Theatre	+ +	++		+/-	+ +	+	-	+/-	+	+	+	+/-	+	+/-	+
Music venue	+ +	+ +		+	+	+	-		+	++	+/-	+	+	-	-
Museum	+ +	+ +		+	+ +	+	+/-		+	+ +	+ +	+/-	+	-	+
Housing	+/-	+/		-	-	+	+	+ +	+	-	+		+	+/-	
Education	+/-	+ +/-		-	+/-	+	+/-		-	-	+		+	+/-	
Healthcare	+/-	+ +/-		-		+	+		-	+	+		+	-	
Wellness	+	+/-		+	-	+	+ +	+	-	-	+	-	+	-	
Industry	+ +	+ +		+		+	+ +	++	+ +	+	-	+		-	+
Offices	+	+ +		+	+	+	-	+	+	+	+	+/-	+	+	+
Research		+		+	-	+	+/-		+	+	+	+/-	+	+/-	-
Municipal- ity		+				+		+/-	-	-	+	-	+		

Which function fits with the building?

Character			ABCDE	F			Hanalo		Alf T							
Function	Grid	Longitudinal building	Compartments	Low rise	Original trans- verse routing	Original services	Missing elements	Introvert character	Relationship with water	Industrial materialisation	Functional design	Tranquil experience	Loud & dangerous site	Changing environment	Necessity at location	Suitable at location
Festival site	+		+ +	-	+	+ +	+		+	+	+	-	+	+	++	+
Art cluster	+ +		+ +		+	+ +	+	-	+	+	+ +	+	+	+	++	++
Theatre	+ +		+ +		+/-	++	+	-	+/-	+	+	+	+/-	+	+/-	+
Music venue	+ +		+ +		+	+	+	-		+	++	+/-	+	+	-	-
Museum	+ +		+ +		+	+ +	+	+/-		+	+ +	+ +	+/-	+	-	+
Housing	+/-	+/-					+	+	+ +	+		+		+	+/-	
Education	+/-	+	+/-			+/-	+	+/-				+		+	+/-	
Healthcare	+/-	+	+/-				+	+			+	+		+		
Wellness	+		+/-		+		+	+ +	+			+		+		
Industry	+ +	+	+		+		+	+ +	+ +	+ +	+		+			+
Offices	+		+ +		+	+	+	-	+	+	+	+	+/-	+	+	+
Research			+		+	-	+	+/-		+	+	+	+/-	+	+/-	-
Municipal- ity			+				+		+/-			+	-	+		

Which function fits with the building?



Park & Festival Site

Theatre + Backstage area + Creative workspaces + Cafe



The new function

Requirements



Westergasfabriek, Amsterdam, NL York Theatre Royal, York, UK

Kunststad NDSM Amsterdam, NL

For the festival and park terrain, the Westergasfabriek in Amsterdam









For the creative workspaces, NDSM-werf ateliers by Dynamo Architects





Starting points


Following the path of the cotton







Show the contrast between old and new



Respect the existing grid, gesturing towards the cotton bails introducing human scale





Re-use the existing elements to add to identity

B E D

A



Become a cultural hub for Rotterdam





Determined the character

Cultural hub as new function

Determined requirements

Formed a design strategy

Identifying the conflicts





New functions require more daylight



Closed off facade vs public function







Not comfortable



No human scale





The site is not suitable for festivals







How to maintain identity

Design challenge: How can you adapt a derelict, closed-off cotton warehouse into a new and public function whilst maintaining and adding to the identity

Act 3: The resolution

Changing surroundings A changed sense of self New inner workings The resolution

Changing surroundings













Step 4: smooth out the waterfront, adding extra space and green, using soil of previous step



Site map future situation Katoenveem - Park



Site map future situation Katoenveem - Festival





A changed sense of self



Existing facade





Existing structure





Introducing new routing




Placing program on the new routing





Entrance area



Workspaces



Theatre



Backstage area



Existing facade





To allow for the new functions, these elements need to be removed







Supporting the new program, these new structures will be introduced



New inner workings





Ground floor





meeting spaces

cloakroom, toilets











Ground floor





first floor





first floor





Second floor





Second floor














































































The resolution

Design challenge: How can you adapt a derelict, closed-off cotton warehouse into a new and public function whilst maintaining and adding to the identity



Determined the character

Cultural hub as new function

Formed a design strategy

New urban design



The new fitting within the existing structure



Thank you

164