



# Munkegaardsskolen

arkitekt prof. Arne Jacobsen et al.  
Vangedevej 178

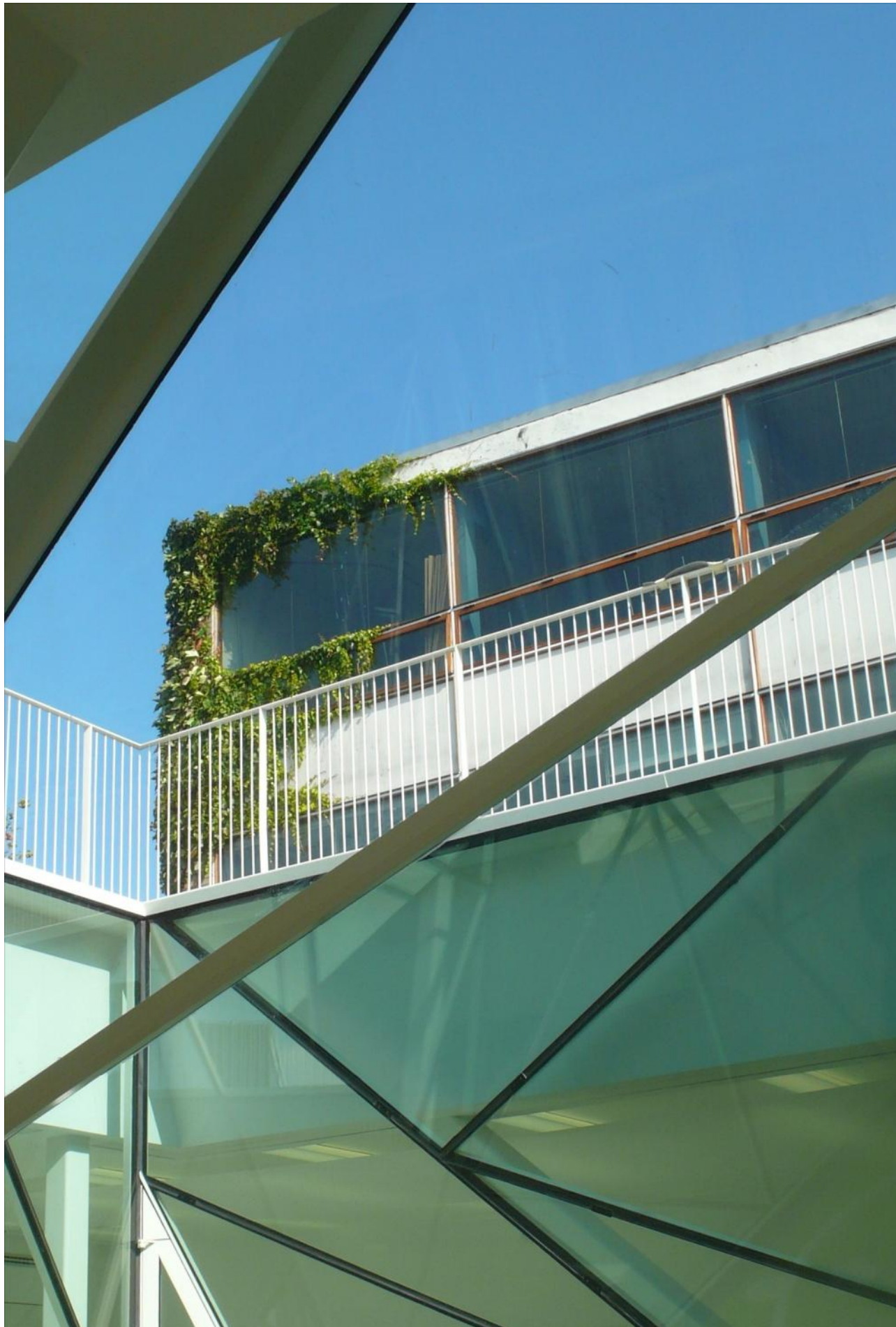
**1949 - 2013**

Municipal school  
restored and revitalized



GENTOFTE KOMMUNE





Arne Jacobsens Munkegårdsskole, set fra Dorte Mandrups parterreudvielse

Arne Jacobsen's Munkegård School seen from Dorte Mandrup's ground-floor extension

### Baggrund og kort projekthistorie 2006-2013

Munkegårdsskolen blev fredet i 1995. Skolen er et hovedværk blandt Arne Jacobsens arbejder.

Professor og arkitekt Arne Jacobsens skolebygning blev udviklet fra 1949 og stod færdig i 1956 som et "gesamtwerk", dvs. Arne Jacobsen har tegnet og projekteret på alle niveauer i byggeriet, lige fra den overordnede struktur til detaljering af beslåning, scenetæpper og gardiner, belysning, inventar og haveplaner. Det er en stor og velstruktureret helhed, der med det nære samspil mellem arkitektur og havekunst, virker hjemlig.

I 2000, besluttede Gentofte Kommune, at skolerne skulle tilbyde projektorienterede læringsfaciliteter. I 2004, blev der, i samarbejde med Kulturstyrelsen, udviklet en bevarings- og vitaliseringsstrategi, samt planlagt et ambitiøst restaureringsprojekt, og en 1600m<sup>2</sup> udbygning under skolegården, en "parterreudbygning" med store dagslysindtag fra atriumgårde. Parterreudbygningen er tegnet af Dorte Mandrup Arkitekter og den stod færdig i 2009.

Sideløbende med parterreudbygningen og frem til og med første halvår 2013, er der gennemført en omfattende restaurering og revitalisering af Arne Jacobsens arkitektur. Primære transformationer er gennemført i festsal og klasseværelser, ved brug af bygningsdele med møbelkarakter, samt få nødvendige ombygninger, også af Dorte Mandrup Arkitekter. Ligeledes er den østlige "udskolingsbygning", efter en skimmelsanering, restaureret og revitaliseret af Erik Møller Arkitekter. Tilsvarende er pedel og inspektørbolig blevet restaureret af Birthe Just Arkitekter. Landskab og gårdhaver er restaureret og revitaliseret af Gentofte Landskab og Arkitektur. Endelig har Tegnestuen Birthe Just udarbejdet en detaljeret manual, så fremtidigt arbejde kan følge den bevarings- og vitaliseringsstrategi, der blev formuleret i 2004.



Luftfoto 2013

Aerial photo 2013

### Brief project history 2006-2013

Munkegård School became a listed building in 1995. The school is one of the major works carried out by Arne Jacobsen.

Work on the school building was started from 1949 by professor and architect Arne Jacobsen and was finished in 1956 as a "complete work". This means that Arne Jacobsen drew and designed every level in the building, right from the overall structure down to such fine details as the fittings, stage backdrops and curtains, lighting, fixings and garden plans. It is a large, well-structured entity which seems to create an intimate atmosphere thanks to the close interaction between architecture and the landscape.

In 2000 Gentofte Municipality decided that schools should offer project-based learning facilities. In 2004 a conservation and revamp strategy was devised, in collaboration with the Danish Agency for Culture, along with plans for an ambitious restoration project and a 1,600 m<sup>2</sup> extension under the school playground, a "ground-floor extension", providing a large amount of daylight from atriums. The ground-floor extension has been designed by Dorte Mandrup Architects and was completed in 2009.

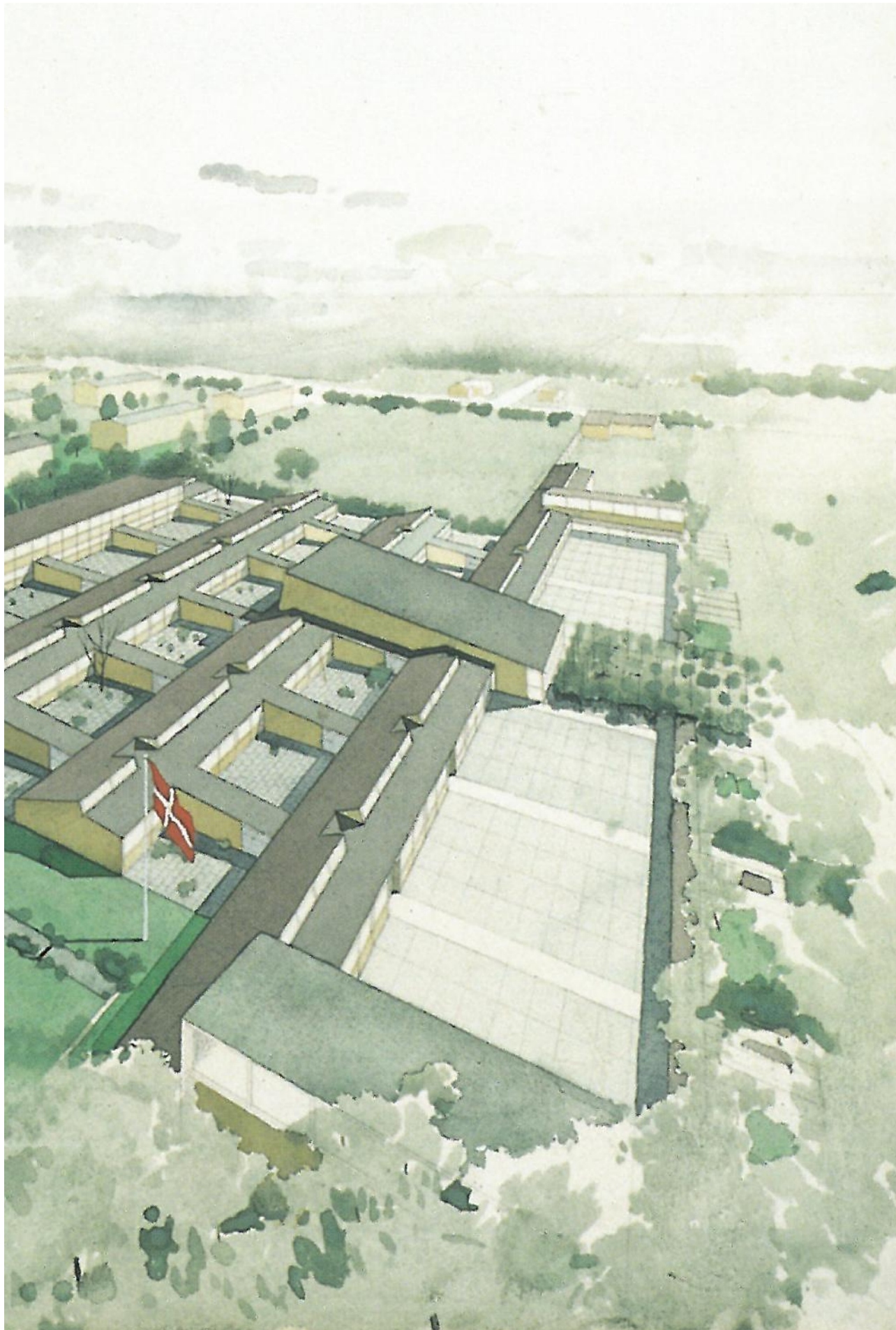
The ground-floor extension was realised alongside a project which involved extensively restoring and revamping Arne Jacobsen's architecture, continuing right up to the first half of 2013. The assembly hall and classrooms have undergone major transformations using inbuilt furniture, along with a few necessary

alterations, also carried out by Dorte Mandrup Architects. The "secondary education building" situated to the east has also been restored and revamped by Erik Møller Architects after mould removal. Similarly, the caretaker's and head teacher's accommodation have been restored by Birthe Just Architects. The grounds and courtyard gardens have been restored and revamped by Gentofte Landskab og Arkitektur. Lastly, the Birthe Just design consultancy has produced a detailed manual ensuring that any future work can follow the conservation and renovation strategy devised in 2004.

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Akvarel af Arne Jacobsen

Watercolour by Arne Jacobsen.

**Munkegårdsskolen - 1949-1956**

Arkitekt: Professor Arne Jacobsen, arkitekt maa

Ved projekteringen af skolen, der blev påbegyndt i april 1949, var den bærende idé, at bygge en stor skole (til 850 børn) med den lille skoles intimitet.

Munkegårdsskolen er struktureret over et "grid" med 4 rækker undervisningsfaciliteter, hvor 3 af rækkerne indeholder i alt 24 klasselokaler, i ét plan. Klasselokalerne ligger 2 og 2 med hver sin lille gårdhave, hvorved der opnås en ro og privat karakter. Klasselokalerne er rigt forsynet med dagslys, dels gennem de store vinduer, og dels gennem det tilbagetrukne shedlys. Begge bånd strækker sig i hele sydfacadens længde, således opnås en jævn lysfordeling i klasserne.

Munkegårdsskolens centrale del viser sig som en 2-etages bygning, der, foruden kontorer, indeholder multisal med bibliotek og scene.

Den fjerde og sidste række, bag de 3 rækker normalklasser, er en 2-etages bygning, der primært rummer faglokaler.

Skolegården, syd for skolebygningen, strækker sig ud i grid'ets fulde længde og er mod syd indrammet af 1-plans bygninger, med bl.a. cykelskure. Mod øst flankeres gården af en 2-plans bygning med udskoлинг, og tilsvarende mod vest, af en bygning der indeholder gymnastiksale. Raffinerede glaspergolaer indikerer linierne og sørger for regnlæ og belysning.

Vest for skolebygningerne er anlagt en sportsplads, og øst for bygningerne er legearealer samt en nyere (1986), og arkitektonisk indpasset, undervisningsbygning i 2 plan, tegnet af Dissing & Weitling, der bl.a.

**Munkegårds School - 1949-1956**

Architect: Professor Arne Jacobsen, Architect MAA

When designing of the school was started in April 1949, the main idea was to build a large school (for 850 children) offering the intimate environment of a small school.

Munkegård School's structure is based on a "grid" with four rows of teaching facilities, three of which feature a total of 24 classrooms on one floor. The classrooms are arranged 2 and 2, each with their own small courtyard garden, thereby making them peaceful and private. The classrooms have plenty of daylight coming in, both through the large windows and the secluded skylights. Both strips extend along the whole length of the south facade, thereby providing an equal distribution of light in the classrooms.

The central section of the Munkegård School takes the form of a two-storey building, accommodating a multi-purpose hall with a library and stage, in addition to offices.

The fourth and final row, behind the three rows of normal classes is a two-storey building, which primarily accommodates dedicated rooms.

The school playground, which is south of the school building, extends the full length of the grid and is enclosed to the south by one-storey buildings, including bicycle sheds. The yard has a two-storey building for the secondary education classes along its eastern side, with a building containing gym halls along the western side. Elegant glass pergolas indicate the lines and provide shelter from the rain and incorporate lighting.

There is a sports field located to the west of the school buildings and play



Klasseværelse, foto 1958  
Classroom, photo 1958



Trappe i fagfløj, foto 1958  
Stairs in dedicated building, photo 1958



En af de fredfyldte gårdhaver, ca. 1956  
One of the peaceful courtyard gardens around 1956



Skolen set fra boldbanen, ca. 1958

School seen from playing field around 1958





Skolen ca. 1958

School around 1958

var arvtager på Arne Jacobsens værker. Oprindeligt var der i dette område udlagt et areal med ca. 100 skolehaver.

I det sydøstlige hjørne af skolegrunden er opført boliger til skoleinspektør og skolebetjent.

Facader fremstår, både ude og inde, i gule teglsten, og ikke bærende vægge er pladebeklædte. Tagrender og tagbelægning er af rustfrit stål med stående false. Indvendigt er loft og vægplader generelt farvesat.

Vinduer og døre er i slanke teakrammer, og enkelte af de særligt store glaspartier er elegant afstivet udvendigt med hvide gitterstag.

Landskabeligt er skolen gennemplanlagt af Arne Jacobsen, der også var kendt som en fortræffelig havearkitekt. Alle de fredfyldte gårdhaver, er forsynet med hver deres helt særlige beplantnings og belægningsplan, hvilket også tilfører identitet og variation.

Den åbne sportsplads mod vest er den perfekte dug, hvor et smukt panorama mod skolen udspiller sig. Skolegården strækker sig i skolens fulde længde, bølgepur, glaspergolaer, vandposte og bænke er, ligesom den skyggegivende lund af 25 platantræer midtfor anlægget, arkitektonisk integreret.

Skolens hjemlige og mondæne karakter, som er en naturlig fortsættelse af villakvarteret, følges hele vejen ind i klasselokalet, "den velbelyste opholdsstue, med gode stole og kig til have og kunst."

Møbler og lamper er Arne Jacobsens design.

Gårdhaverne og udearealer er forsynet med skulpturer fra forskellige epoker og verdensdele, også efter Jacobsens valg. Munkegårdsskolen er et "gesamtwerk" til ånd og velbehag, pædagogik og æstetik.

Skolen blev taget i brug ved begyndelsen af skoleåret 1956.

areas to the east of the buildings, as well as a newer (dating from 1986) two-storey teaching block in keeping with the architecture, designed by Dissing & Weitling whose remit includes the continuation of Arne Jacobsen's works. This area originally accommodated around 100 school gardens.

Accommodation has been built in the south-east corner of the school grounds for the head teacher and caretaker.

Both the external and internal facades are made of yellow brick, and the non-bearing walls have metal panels. The guttering and roof covering are made of stainless steel with standing seams. Internally, the ceiling and walls are generally painted.

The windows and doors have slim teak frames and each of the exceptionally large glass panels is elegantly supported externally by white lattice struts.

The school's landscaping has been planned by Arne Jacobsen, who was also renowned as an excellent landscape architect. All the peaceful courtyard gardens have their own special planting and paving plan, which also adds identity and variety. The open sports field to the west is the ideal spot providing a beautiful vista of the school.

The school playground extends the full length of the school, with the beech hedge, glass pergolas, drinking fountains and benches, as well as the shady grove formed by 25 plane trees, completely blending in with the architecture.

The school's intimate, elegant feel, which is a natural continuation of the residential area, carries on right into the classroom, which is "the well-lit day room with comfy chairs and a view of the garden and works of art." The furniture and lights have been designed by Arne Jacobsen.

The courtyard gardens and outside areas are graced by sculptures from different periods and parts of the world, which have also been chosen by Jacobsen. The Munkegård School is a "complete work" stimulating the mind and enjoyment, as well as learning and an aesthetic feel.

The school opened its doors at the start of the 1956 academic year.



Indspændte spinkle trappetrin  
Hanging stairs



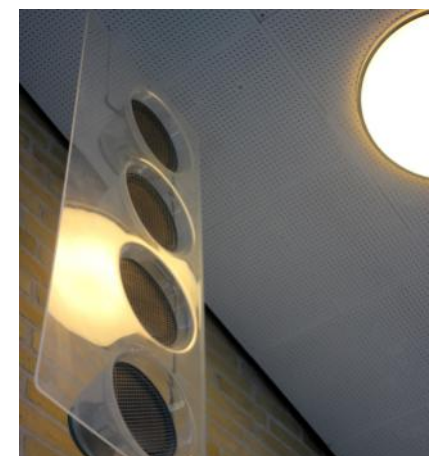
Munkegårdarmaturer indbygget i Pergola  
Munkegård light fittings integrated into the pergola



Blomstrende magnoliatræ i en af gårdhaverne  
Magnolia tree in blossom in one of the courtyard gardens



Stol "3105" og pult designet af Arne J. til skolen  
3015" chair and desk designed by Arne Jacobsen



Højtaler, designet af Arne J. til skolen  
Loudspeakers designed by Arne Jacobsen





Parterreetagen

Ground floor

### Parterreudbygning 2007-2009

Arkitekt: Dorte Mandrup Arkitekter

Med parterreetaen er skabt et flydende rumforløb, med en række nicher indeholdende specifikke fagfunktioner. Parterren anvendes til tværfaglige projekforløb, på tværs af klasser og årgange, og har karakter af "eksperimentarium".

Parterren får dagslys via 4 store prismeformede lysgårde, der også indgår som udeophold for eleverne. I skolegården fremstår lysgårdene som huller i terræn afgrænset af lette stålværn.

Med parterreanlægget under den nuværende skolegård, sammenføjes de tidligere lidt afsondrede funktioner, fx småbørnsbygning og gymnastiksal, således at hele skolestrukturen er blevet mere sammenhængende.

Mandrups hovedgreb er et arkitektonisk guldæg, der med sine volumener, giver rammer til nye pædagogikker, i højeste grad respekterer den arkitektoniske kulturarv, benytter de eksisterende strukturer og opnår en radikal modernisering af skolens sammenhæng.

Det enkle er bedst, men det bedste er sjældent enkelt. At fjerne skolegården og seks meter terræn, op til og ind under Arne Jacobsens skolebygning, var en enorm udfordring. Udførelsen forløb fuldstændig kontrolleret. Resultatet er sublimt og sublimeret arkitektur, et respektfuldt samspil mellem 2 markante værker hhv. over og under skolegårdens "kote 0".

Udover de 2 store volumener, opleves tæt dialog i formsprog, som konsekvent kontrasteres i materialeforskelle, der åbenlyst afspejler deres samtid. I anvendelsen af gårdrum, i de store skabsvægge, og i markante farveholdninger. Fx. har Mandrup i de nye, lysende, limegrønne toiletafsnit, der ligger i åben forbindelse til Arne Jacobsens orange rum med dafoleumgulv, indlejret en forstørret akvarel fra Arne Jacobsen i epoxybelægningerne.

### Ground-floor extension 2007-2009

Architect: Dorte Mandrup Architects

The ground floor has been used to create a flowing succession of rooms with a number of corners featuring specific dedicated functions. The ground floor is used to run cross-disciplinary projects, as well as projects across classes and year groups, making it a kind of "experimental laboratory".

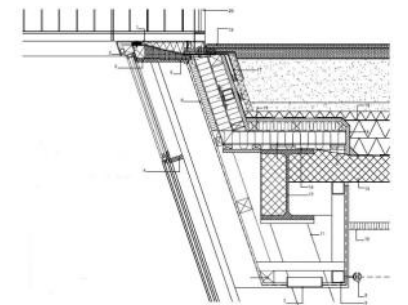
Daylight reaches the ground floor via four large prism-shaped lightwells, which are also used as outdoor classrooms for pupils. The lightwells appear in the school playground as holes in the ground, with light steel protection railings.

The ground-floor structure under the existing school playground enables facilities that used to be slightly isolated from each other to be joined together, e.g. the small children's building and the gym hall. The upshot of this has been to make the whole school structure more cohesive.

Mandrup's design brief is an architectural gem, with its spacious areas providing a framework for new styles of teaching. It shows the utmost respect to the architectural heritage, uses existing structures and gives the school's environment a radical modern look.

Simple is best, but the best is rarely simple. The task of removing the school playground and six metres of earth up to and under Arne Jacobsen's school building was a huge challenge. The task was carried out under complete control. This has resulted in an architecture that is sublime and sublimated. It provides a respectful interaction between two striking works above and below the school playground's "level 0" respectively.

Apart from having two large spacious areas, a close dialogue can be felt in the architectural idiom, with a consistent contrast in the different materials used, obviously reflecting their times. This is seen in the use of courtyards, the large built-in cupboards and in the striking colour schemes. For instance, Mandrup has embedded a magnified version of a water-



Detailsnit, overgang mellem skole-nye atriumgård  
eDetail section of new atria connection too schoolyard



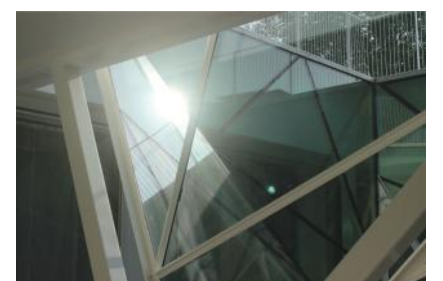
Byggeri, der er gravet ind under bygninger  
Construction, digging in under buildings



Byggeri, skolegården bortgravet  
Construction, school playground dug up



Oprindelige farver og nye toiletter  
Original colour scheme and new toilets



Prismatisk virkning i de nye lysgårde  
Prism effect in new lightwells





Skolegård og atriumgårde 2013

School playground and atria 2013

Skolegården er efterfølgende blevet rekonstrueret, belægninger, beplantning, bænke, vandposte og pergolaer er nøjagtigt genskabt, kun de hvide gelændere, der står i gridet, over lysgårdene, varsler at noget absolut moderne er sket.

De 1.600m<sup>2</sup> er indrettet til fleksibel anvendelse, men med 4 primære fagområder, hhv. fysik, naturvidenskab, bevægelse og madlavning. Hvert område har et faglokale, der både kan åbnes og lukkes mod det store rum med de 4 lysgårde. Lysgårdene bryder orthogonaliteten, de farvede gulve, store lysindtag, skrå sprogter og rummets meget lyse overflader, bringer en dynamik og opløftende stemning, der tydeligt ansporer projektarbejder, hvad enten det er mindre grupper, der sidder på trapperne, eller ved møbeløerne, eller om der er tale om klasseundervisning.

Lysgårdene er også en facilitet, der anvendes aktivt i det tilsvarende fagområde, hvad enten det er fysikforsøg eller dyrkning af brøndkarse, studie af biologiske forhold i akvarium eller lignende.

Etagen anvendes også uden for skoletid til anden undervisning, foredrag og kurser.

colour from Arne Jacobsen in the epoxy coatings used in the new, bright lime-green toilet block, which opens onto his orange room with the Dafeleum mastic-asphalt type floor.

The school playground was then rebuilt. The surfaces, plants, benches, drinking fountains and pergolas have been carefully recreated. The white railings in the grid above the lightwells are the only indication of any completely modern touch.

This space covering 1,600 m<sup>2</sup> has been equipped for flexible use, but with four main areas dedicated to physics, natural science, exercise and cookery. Each area has a dedicated room which can be opened and closed to the large area with the four lightwells. The lightwells break up the orthogonal layout. The coloured floors, a large amount of incidence light, sloping rails and the area's very bright surfaces generate a dynamic, uplifting ambience, which is clearly conducive to both project work, whether it involves smaller groups sitting on the stairs or beside the equipment islands, and classroom teaching.

The lightwells also provide a facility which is actively used in the relevant dedicated area, whether it involves physics experiments being carried out or growing watercress, studying biological conditions in an aquarium etc.

This floor is also used outside school hours for providing other lessons, lectures and courses.



Limegrøn epoxy af Dorte mandrup med Arne Jacobsen motiv  
Lime-green epoxy from Dorte Mandrup with Arne Jacobsen motif



Vilter nutidig møblering  
Vivid modern furniture



Parterre, køkkenfaglokale  
Ground floor, dedicated kitchen area



Parterre, bevægelsesfaglokale  
Ground floor, dedicated exercise area



Parterre, fysiklokale  
Ground floor, physics room



Parterre, naturlokale  
Ground floor, natural sciences



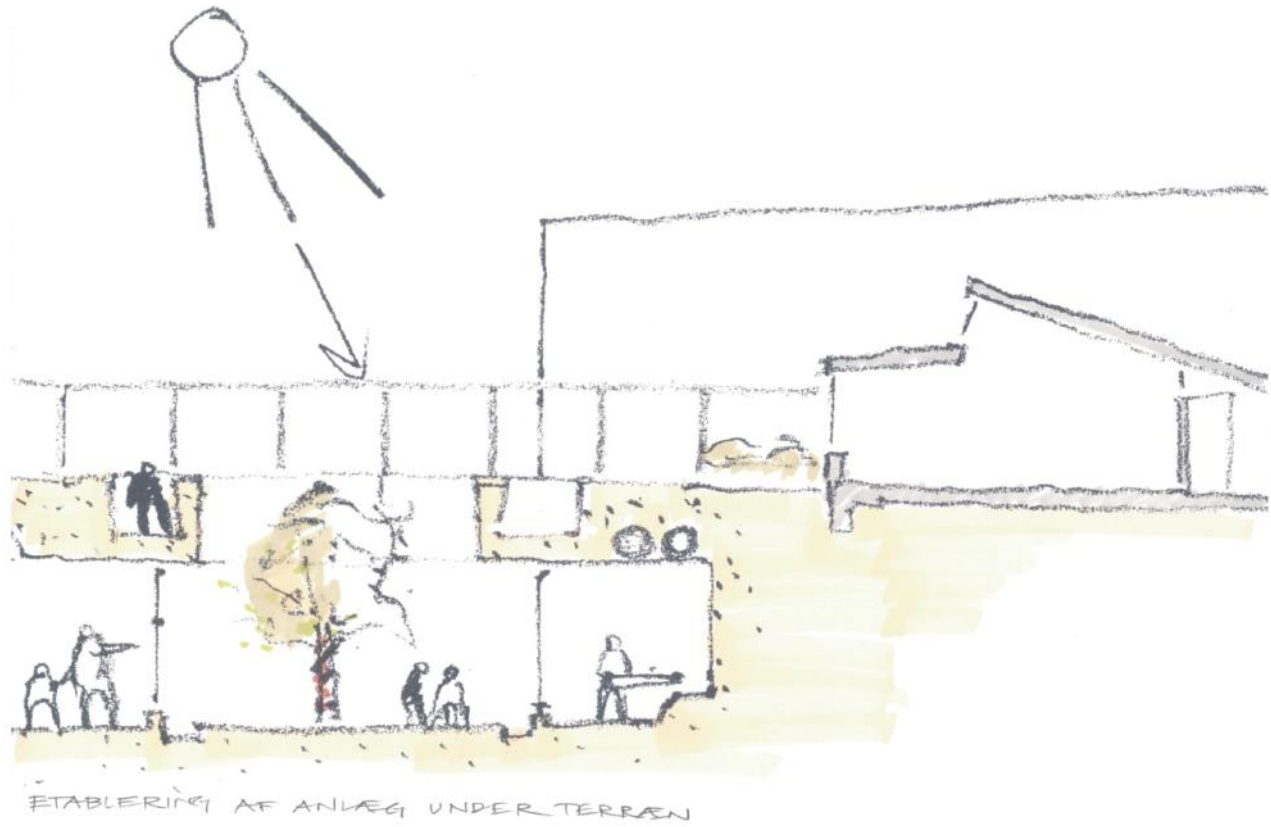
Skolegård, foto 1958

School playground, photo 1958



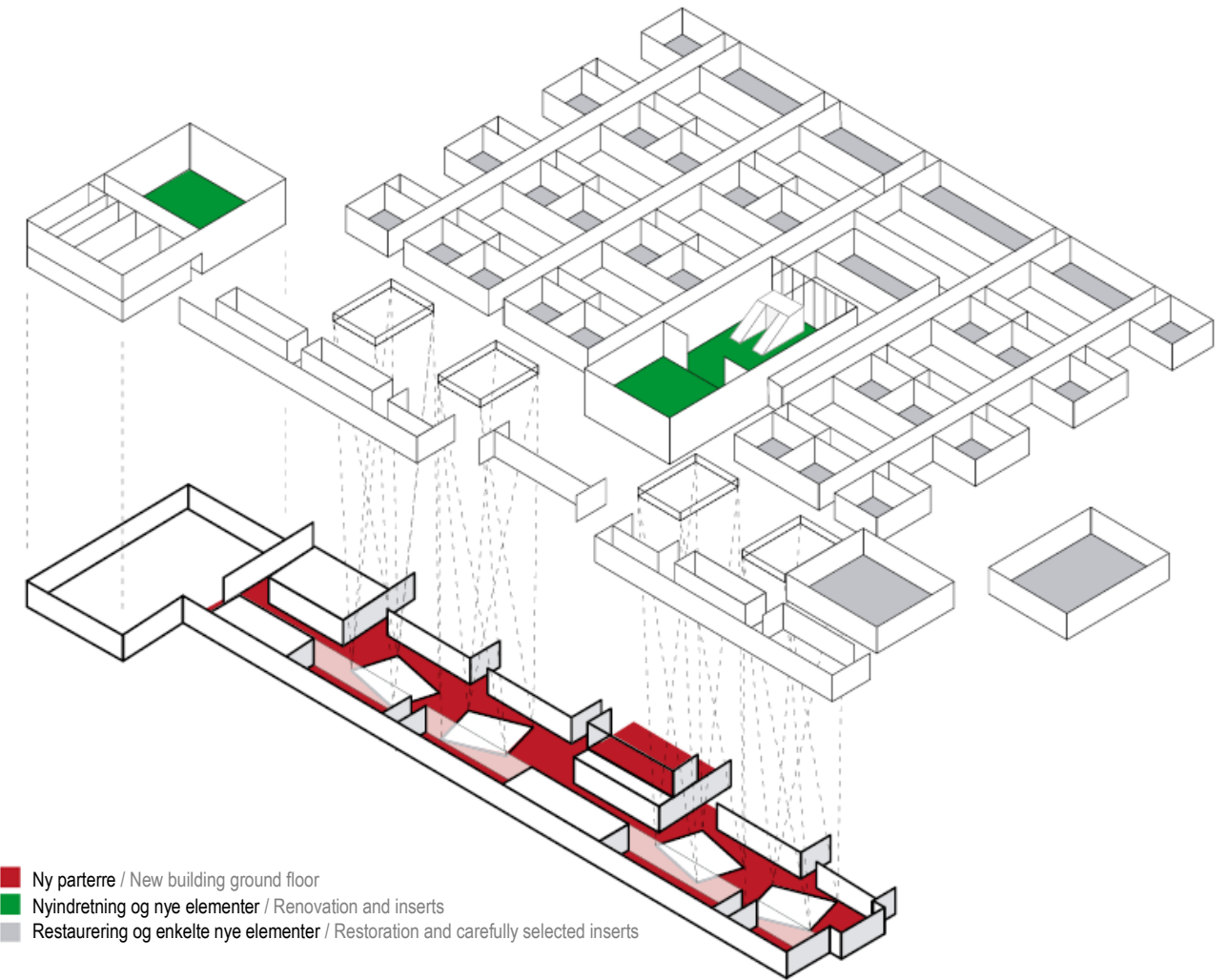
Programmeringsprincipper

Planning principles



Principskitse, første streger til parterreforslaget af Dorte Mandrup Arkitekter

Simplified sketch, first lines drawn of proposal for ground floor by Dorte Mandrup Architects

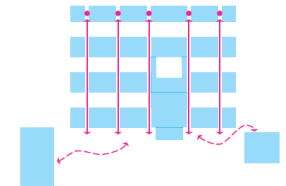


- Ny parterre / New building ground floor
- Nyindretning og nye elementer / Renovation and inserts
- Restaurering og enkelte nye elementer / Restoration and carefully selected inserts

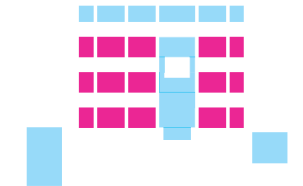
De primære greb lokaliseret i grove træk

Rough outlines of initial designs

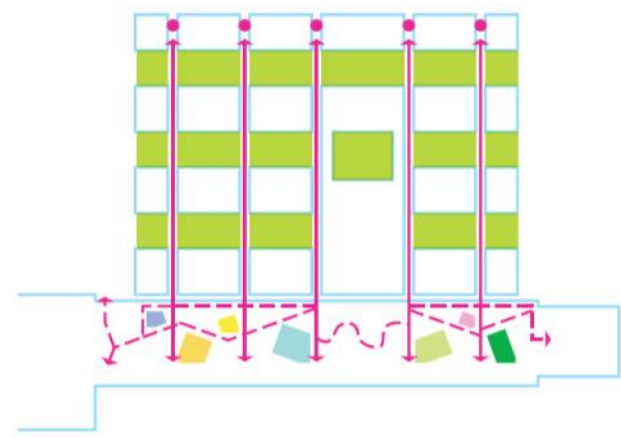
Eksist. struktur: Bevægelse  
Exist. structure: Exercise



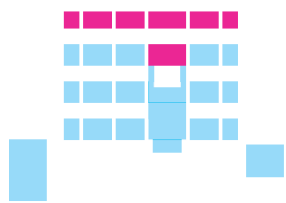
Eksist. struktur: Normalklasser  
Exist. structure: Normal classrooms



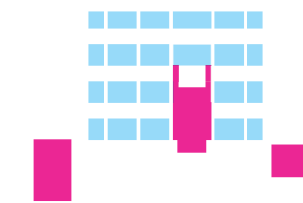
Princip for udvidelse, nyt volumen sammenbinder den eksist. struktur  
Principle for extension, new area connects to exist. structure



Eksist. struktur: Fagfløj  
Exist. structure: Dedicated building



Eksist. struktur: Særlige steder  
Exist. structure: Special places



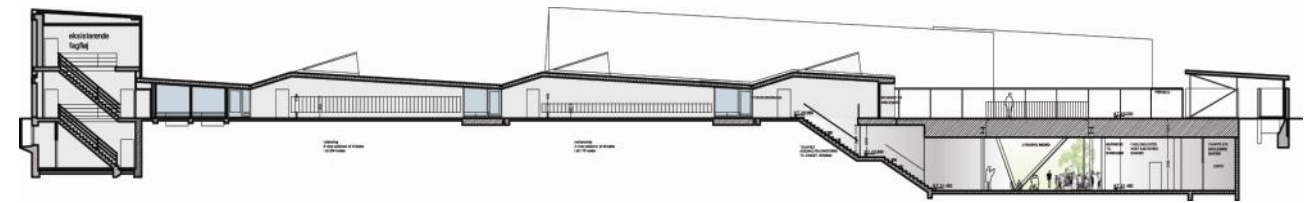
Programanalyse

Planning analysis



Det endelige projektforslag—snit i klasserum

Final project proposal – cross-section in classroom



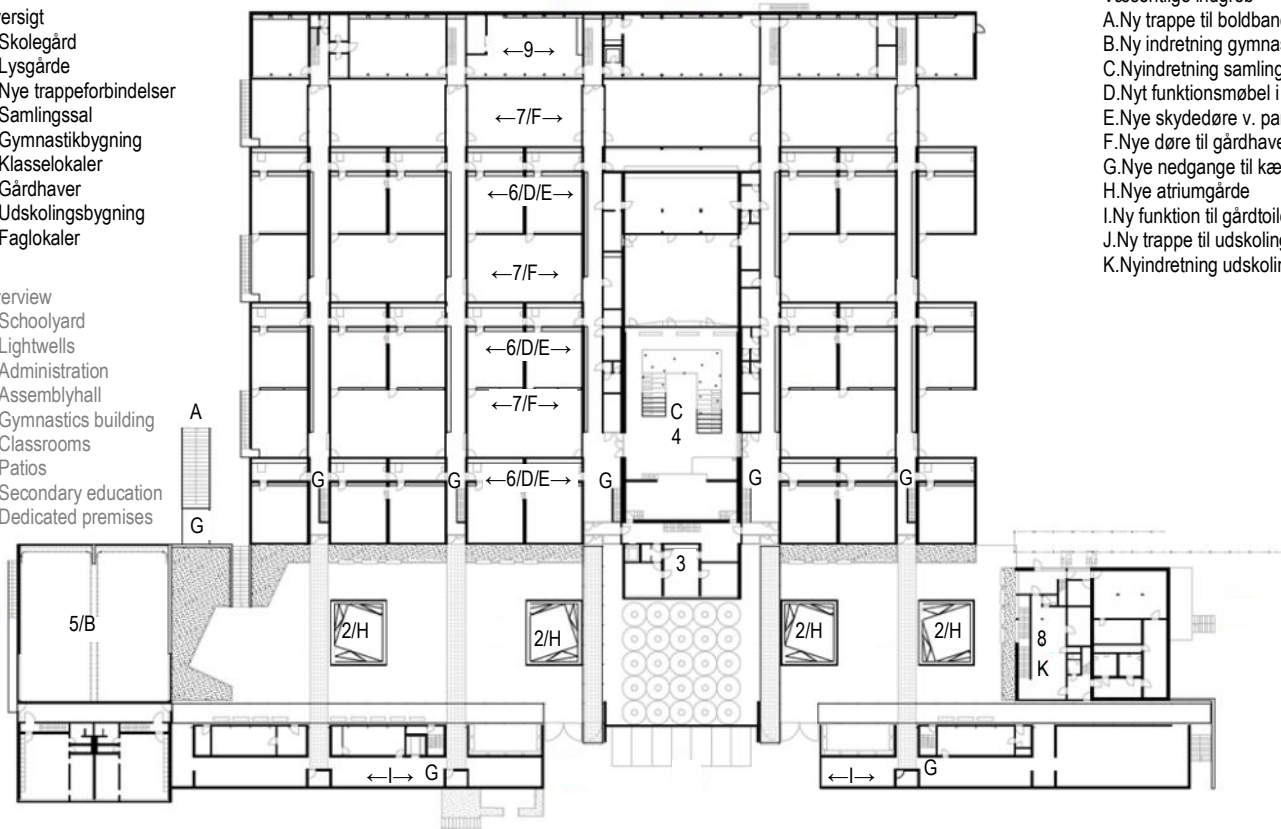
Det endelige projektforslag—snit i korridorer og trapperum

Final project proposal – cross-section – cross-section in corridors and stairway



- Oversigt
1. Skolegård
  2. Lysgårde
  3. Nye trappeforbindelser
  4. Samlingssal
  5. Gymnastikbygning
  6. Klasselokaler
  7. Gårdhaver
  8. Udskolingsbygning
  9. Faglokaler

- Overview
1. Schoolyard
  2. Lightwells
  3. Administration
  4. Assembly hall
  5. Gymnastics building
  6. Classrooms
  7. Patios
  8. Secondary education
  9. Dedicated premises

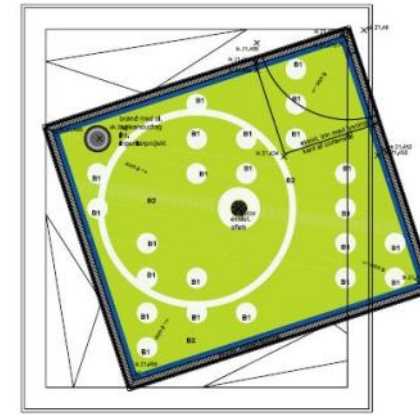


Plan, stueetage

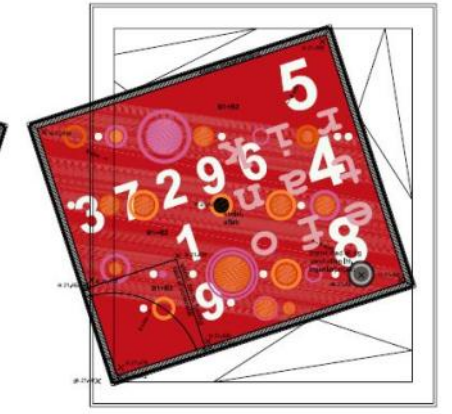
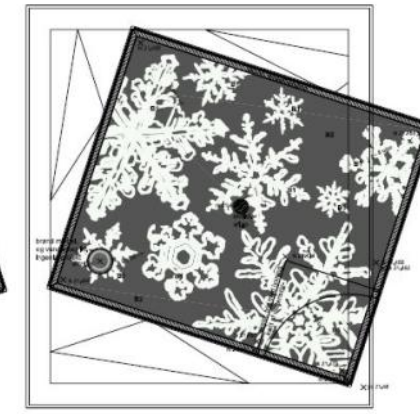
Plan, ground floor

- Væsentlige indgreb
- A. Ny trappe til boldbane
  - B. Ny indretning gymnastiksal
  - C. Nyindretning samlingssal
  - D. Nyt funktionsmøbel i klasser
  - E. Nye skydedøre v. parallelklasser
  - F. Nye døre til gårdhaver
  - G. Nye nedgange til kælderetage
  - H. Nye atriumgårde
  - I. Ny funktion til gårdtoiletter
  - J. Ny trappe til udskolingsbygning
  - K. Nyindretning udskolingsbygning

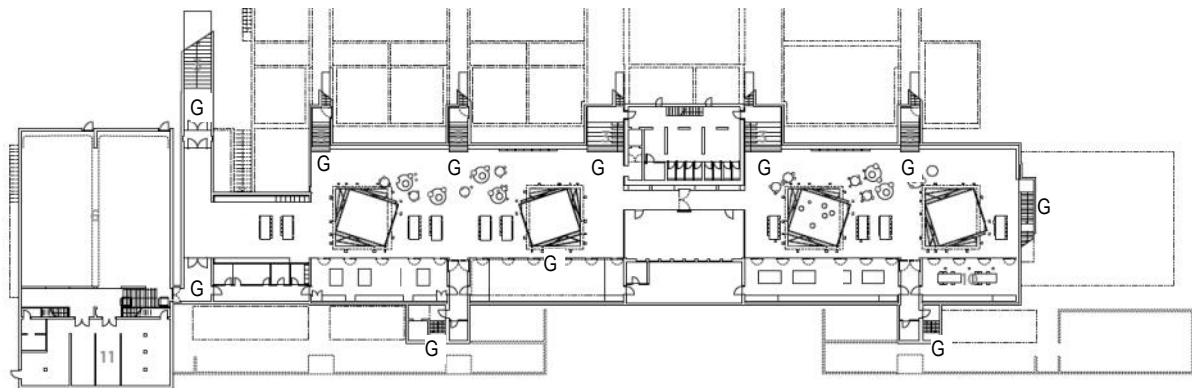
- The key interventions
- A. New stairs to the playing fields
  - B. Aggregation of sports halls
  - C. Transformation of assembly hall
  - D. New functional furniture in classrooms
  - E. New sliding doors between parallel classes
  - F. New doors to courtyard gardens
  - G. New staircases down to basement level
  - H. New atrias, lightwells for Ground-floor extension
  - I. New function for schoolyard building
  - J. New stairs to secondary education building
  - K. Transformation of secondary education building



Belægning i lysgårde



Pavement in lightwells



Plan, ny parterre

Plan, new parterre



Lysgård

Lightwell



Parterre i brug

Ground floor in use



Længdesnit gennem parterre-, gymnastiksal- og udskolingsbygning

Longitudinal section through ground floor, gym hall and secondary education building





Festsal set fra gårdhave 1956

Assembly hall seen from a courtyard garden 1956



Festsal 2013, set fra megamøbel

Assembly hall 2013, seen from large structure

**Transformation af festsal  
2007-2009**

Arkitekt: Dorte Mandrup Arkitekter

For at sikre, at skolens hjerte forbliver i den eksisterende struktur, er der placeret et mediatek-/bibliotek-/lounge-/mindre scenefunktion i skolens festsal. Festsalen, havde de seneste år kun fungeret ekstensivt, idet morgensang og samling ved særlige lejligheder, ikke har samme kadence som tidligere.

Nu er der skabt et videnscentrum i festsalen, med opstilling af et stort terrasseret møbel med IT-arbejdspladser og bogreoler. Reolerne er drejbare, hvorved der også kan indrettes studielommer, eller en lille scene. Møbeltrinene fungerer desuden som tribune, når der opføres skolekomedie på den oprindelige scene. Fra møbeldækket er der et velbelyst og smukt kig over skolen.

Bibliotekarmøblet indtager også eleven i sit loungemiljø.

Samlingsfunktionen kan nu foregå i de 2 gymnastiksale, hvor midterskillevæggen er fjernet.

**Transformation of the assembly hall  
2007-2009**

Architect: Dorte Mandrup Architects

To ensure that the heart of the school is retained in the existing structure, the school assembly hall has been given the function of a media library, normal library, lounge and smaller stage. In recent years, the assembly hall had only been used extensively for morning assembly and assemblies held on special occasions, and was not used to the same extent as previously.

An information centre has now been set up in the assembly hall, with a terraced structure equipped with IT workstations and book shelves. The shelves rotate, which means that study areas or a small stage can be created. The structural levels can also be used as a platform when a play is being performed on the original stage. A well-lit, lovely view of the school can be taken in from the top of the structure.

The library furniture also makes pupils feel as if they are sitting in their own living room.

Assemblies can now be held in the two gym halls by removing the central partition.



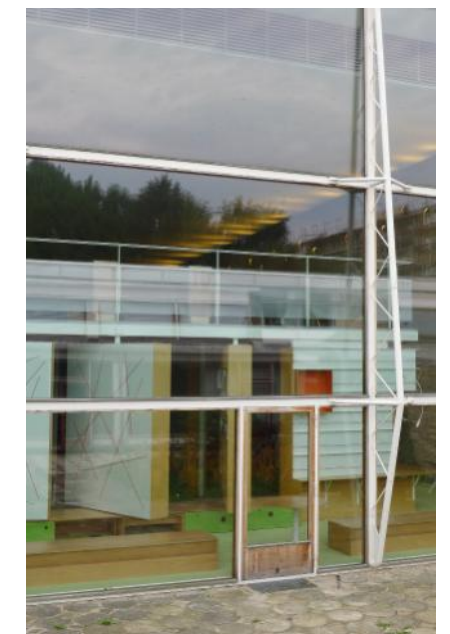
Snit i festsal

Section in assembly hall

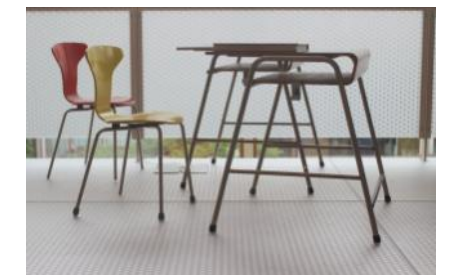


Den transformerede festsal

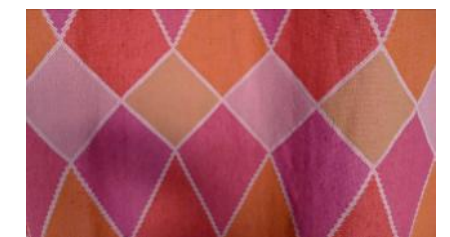
The transformed assembly hall



Festsalen, gitterstag foran stort glasparti  
Assembly hall, lattice strut



Arne Jacobsens borde og stole på møbelreos  
Arne Jacobsen's desks and chairs on platform



Scenetæppe designet af Arne Jacobsen  
Stage backdrop designed by Arne Jacobsen



Mobile reoler

Mobile shelves





Klasselokale 1958

Classroom 1958



Forrum til klasselokal ca. 1958

Area just outside classroom around 1958

### Transformation klasselokaler 2007-2009

Arkitekt: Dorte Mandrup Arkitekter

Klasseværelserne blev allerede i halvtredserne fremhævet for deres fremsynede kvaliteter, adgang til fredfyldt have, jævn og rigelig dagslysindtag samt god akustik. I kraft af at rummet, så at sige, orienterer sig på tværs af undervisningen, opstår en mindre hierarkisk kontakt mellem lærer og elev. Forrummet "garderoberummet" kunne allerede dengang anvendes til mindre og kortvarige projektopgaver.

For at fremme muligheden for projektarbejde og differentieret undervisning, blev det vurderet, at en direkte sammenhæng mellem klasserummene var nødvendig. Den enkelte lærer skal, i mange situationer, være tilgængelig for flere grupper og selvstændigt arbejdende elever samtidigt. Der er derfor etableret en åbning mellem normalklasserne. Åbningen blev, efter omfattende analyse, valgt etableret som en skydedør i det tilbagevendende proportioneringstal 1:1,7.

I klasserummene er der yderligere tilføjet en reolvæg, til bl.a. smartboardfacilitet.

Klasserummene er i øvrigt gennemgribende restaureret, med bl.a. nyproducerede lofter og nystøbte gulve, begge udført præcist som oprindeligt. Indeklimaet er optimeret med udskiftning af ruder til energiglas og ny hybridventilation, i begge tilfælde udført, så det ikke forandrer det arkitektoniske afsæt.

### Transformation of classrooms 2007-2009

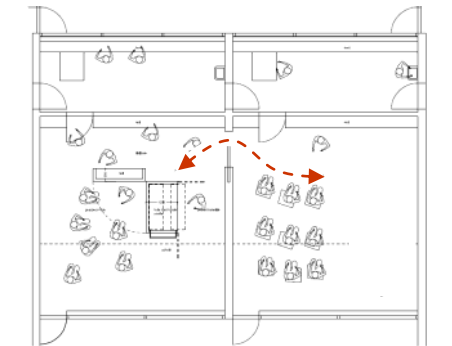
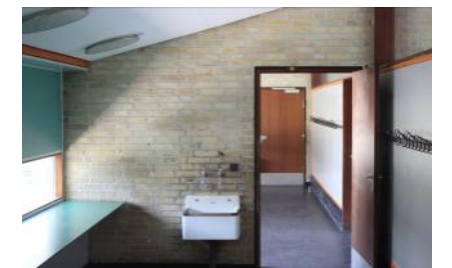
Architect: Dorte Mandrup Architects

The classrooms were already highlighted in the 1950s for their forward-looking qualities, with their access to a peaceful garden, constant, ample daylight and good acoustics. Given that the area's use is geared, so to speak, towards a cross-educational use, the contacts between teachers and pupils are less hierarchical. The "cloakroom" area outside the classroom was also used for carrying out minor and short-duration project tasks during the period.

To encourage the opportunity for project work and streamed teaching, it was considered that a direct connection needed to be established between the classrooms. In many situations, every teacher will be available to work simultaneously with several groups and with pupils working independently. Therefore, an opening has been created between the normal classrooms. After an extensive analysis, it was decided to make the opening a sliding door in the recurring proportion of 1:1.7.

Wall shelf units were also added to the classrooms, along with a smartboard facility.

Extensive restoration work has also been carried out on the classrooms. This involved providing new ceilings and newly laid floors, both tasks carried out as precisely as when done originally. The indoor climate has been improved by replacing the existing glass panes with energy glass and installing a new hybrid ventilation system. Both tasks have been carried out without changing the original architectural look.

Klasselokale 2013  
Classroom 2013Plan klasselokaler, ny dør  
Classroom plan, new doorForrum til klasselokale 2013  
Area just outside classroom around 2013Oprindelige møbler og andet inventar  
New furnitureNyt møbel i oprindelig kontekst  
New furniture in original context



### Restaurering funktionærboliger 2011-12

Arkitekt: Tegnestuen Birthe Just

Da tegnestuen fik opgaven, lød den på elementær istandsættelse. Imidlertid viste det sig, at alt var gennemfugtet, selv om taget var repareret et par år forinden.

Prøver viste, at slaggerne under betondækket var nedbrudt. Derfor blev slagger, betonlag og trægulv udskiftet.

Brystningspartierne og tapeter var fyldt med skimmelsvamp, hvorfor de, dels blev udskiftet, dels afrenset.

Farvelagene under de hvidmalede flader i vægge, lofter og køkken blev registreret, og hele den originale farveholdning er retableret. Bl.a. er køkkenet nu i den specielle grønne farve, ligesom gangen i inspektørboligen, brystningspanelerne er malet i den originale farve (orange) eller i farve som det originale tapet i rum (grøn).

I de store rum var der oprindeligt tapet, her er det valgt, at male den gule farve i inspektørboligen og en hvid farve i skolebetjentboligen.

### Restoration of employee accommodation 2011-12

Architect: Birthe Just design consultancy

When the design consultancy was assigned the task, it was to carry out basic repairs. However, it turned out that everything was soaked through, even though the roof had only been repaired a couple of years before.

Samples showed that the slag underneath the concrete roof had disintegrated. This meant that the slag, concrete layer and wooden floor were replaced.

The spandrel panels and wallpaper were covered with mould, which is why they were partly replaced and partly cleaned.

The coats of paint beneath the white surfaces on the walls, ceilings and kitchen were noticed and the whole original colour scheme has been restored. This means that the kitchen is now painted a special green colour, just like the corridor in the head teacher's accommodation. The spandrel panels have been painted in the original colour (orange) or in the same colour as the original wallpaper in the room (green).

The large rooms had originally been wallpapered. In this case, it has been decided to paint the head teacher's accommodation yellow and the caretaker's accommodation white.



Funktionærbolig set fra Vangedevej  
Employee accommodation seen from Vangedevej



Farvesætning beboelse  
Accommodation colour scheme



Farvesætning beboelse  
Accommodation colour scheme



Funktionærbolig havefacade  
Garden facade of employee accommodation



Farvesætning beboelse  
Accommodation colour scheme

### Restaurering af udskoling 2012

Arkitekt: Erik Møller arkitekter

Opgaven var at nyindrette og restaurere udskolingsbygningen med hjemklasser, værkstedsrum, mødelokale, mv. alt til brug for skolens ældste elever.

Bygningen stod tom og ribbet for de skillevægge, lofter og gulve, der blev fjernet i forbindelse med en skimmelsanering.

Oprindelig rummede bygningen en "småbørnssal / legesal" med et højtsiddende vinduesparti mod øst, der gav lys til det indbyggede balkondæk. I 1979 udførtes en omfattende ombygning, hvor der bl.a. blev indskudt et nyt etagedæk.

Der er væsentlige indvendige planændringer, mens de ydre tiltag er udført på en sådan måde, at bygningsanlæggets arkitektoniske helhedskarakter er opretholdt. Tegnestuen har fastholdt bygningens enkelte hovedstruktur. I stueetagen er indrettet et Multimedia-værksted. På 1. sal fastholdes hovedskillerum, som tidligere, og der er indrettet tre klasserum. Udvendig er bl.a. balkondæk, trappe og stålværn istandsat. Langs sidevægge i alle klasserum, er monteret gennemgående skabsvægge, der refererer til lignende i hovedskolens lokaler.

Farver er valgt fra den oprindelige farveskala. Lofter er bevaret, i stueetagen, som pudse og malede. Overalt på lofter, over 1. sals rum, er specialfremstillede Munkegårdspladelofter og lysarmaturer retableret. Eksisterende vinduer og døre er istandsat.

### Restoration of the secondary education building 2012

Architect: Erik Møller Architects

The task entailed refitting and restoring the secondary education building, providing form rooms, workshops, meeting rooms and any other facility for the school's older pupils to use. The building was empty and stripped of its partitions, ceilings and floors, which were taken out as part of the mould removal.

The building originally accommodated a "small children's/play room" with a high window panel facing east, which allowed light into the built-in balcony platform. An extensive conversion was carried out in 1979, which included the insertion of a new floor. Significant internal plan changes have been made, while the external activities have been carried out in a way to ensure that the building's integral architectural character has been preserved. The design consultancy has retained the building's simple main structure. A multimedia workshop has been installed on the ground floor. The main partition has been maintained on the first floor, as before, and three classrooms have been set up. External features, including the balcony platform, stairs and steel railings have been repaired. Wall-to-wall built-in cupboards have been fitted along the side walls, reflecting the set-up in the main school's premises. Colours have been chosen from the original colour range. The ceilings on the ground floor have been kept smooth and painted. Specially produced Munkegård panel ceilings and light fittings have been restored to the rooms on the first floor. Existing windows and doors have been repaired.



Detalje omkring dørhåndtag  
Details around the door handle



Udskoling restaureret undervisning  
Restoration of the secondary education building



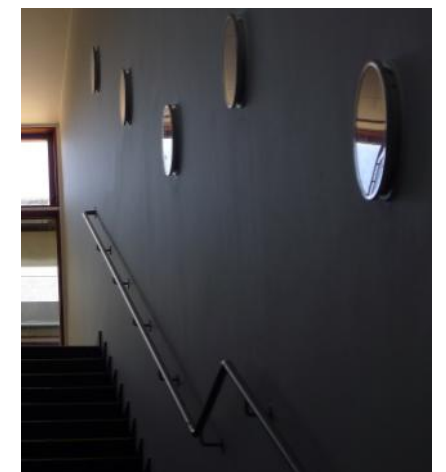
Nye møbelvægge  
New built-in furniture



Udskolingsbygning østfacade  
East facade of secondary education building



Udskolingsbygning vestfacade  
West facade of secondary education building



Udskolingsbygning trappe til parterre  
Stairs, secondary education building to ground floor





Gårdhaver hhv. 2013 og ca. 1958

Courtyard gardens 2013 and around 1958 respectively

**Restaurering og revitalisering landskab 2012**

Arkitekt: Gentofte Kommune Landskab og arkitektur.

Skolegårdens belægninger, bænke, drikkefontæner og pergolaer er restaureret. Beplantningen er genskabt med bøgepur og de 25 platantræer, der nu har rodnet i dækket over parterreetagen.

De 17 gårdhaver, der hver blev indrettet, med individuel karakter af Arne Jacobsen, har som gennemgående træk, at belægning er bærer af skolegriddet, hvori beplantningen indvæver sig i fuger, felter og på vægge, hvilket, sammen med klassiske skulpturer og relieffer taler poesi og fantasi.

Gårdhaverne blev oprindeligt kun anvendt til formel brug, med udgang fra klasselokalet, efter aftale med læreren. Nu er der fri adgang fra begge gang-sider, hvilket har aktiveret uderummene.

Bevaringsstrategien for istandsættelsen er:

- at følge den oprindelige belægnings- og beplantningsplan fra Arkitekt Arne Jacobsen. Hvilket bl.a. betød, at der måtte specialproduceres fliser.

- at de enkelte steder, hvor vegetationen enten ikke er levedygtig eller beskadiger bygningen, skiftes til tilsvarende, men velegnet.

- at der, få udvalgte steder, indbygges en ny tidssvarende og åbenlyst tilført facilitet, på en amorf-formet bund, belagt med slotsgrus med en præcis stålkant, eksempelvis:

En rundbænk omkring en fantastisk og gigantisk vandgran/nedgravede trampoliner/et huggeblok område/Instrumentområde/siddeplads ligesom der er opsat Munkegårdsbænke udvalgte steder i alle gårdrum.

En del af projektmaterialerne er omsat til bevarings- og plejeplan, således at principperne for landskabsarkitekturen kan fastholdes i overensstemmelse med at naturen forandrer sig.

**Restoring and revitalization the landscaped area 2012**

Architect: Gentofte Kommune Landskab og Arkitektur.

The school playground's surfaces, benches, drinking fountains and pergolas have been restored. The greenery has been recreated with a beech hedge and 25 plane trees, which are now planted in the roof above the ground floor.

The 17 courtyard gardens, which were each created by Arne Jacobsen with their own individual character, share a common feature; their surface provides the basis for the school grid, with plants being interwoven in joints, fields and on walls, which, along with conventional sculptures and relief features, conveys poetry and imagination.

The courtyard gardens were originally used on a formal basis, with pupils only being allowed to leave the classroom after obtaining the teacher's agreement. They can now be freely accessed from both sides of the corridor, which has increased the active use of the outdoor areas.

The conservation strategy for repairs involves:

- following Arne Jacobsen's original layout and planting plan. This meant, for instance, that tiles had to be specially produced.

- changes to individual places where the vegetation is either not viable or is damaging the building to something appropriate which also fits in well.

- incorporating, in a few selected places, a new modern and openly accessible facility, on an amorphous surface covered with Slotsgrus gravel with a neat steel border, for instance: A round bench around an amazing, huge dawn redwood/sunken trampolines/a stepping block area/instrument area/sitting area, just as Munkegård benches are arranged in chosen spots in all the courtyards. Some of the project materials used are adapted for the conservation and care plan to ensure adherence with the principles of landscape architecture as nature changes.



Eksempler på nye elementer, trampolin, huggeblokke og musiklegeinstrumenter  
Examples of new items, such as a trampoline, stepping blocks and toy musical instruments



Elever sysler fredfyldt ca. 1958

Pupils quietly occupied around 1958



Forplads de 25 plataner  
Area in front of 25 plane trees



Cæsar, en af de 30 kunstværker i uderummene  
Caesar, one of the 30 artworks in the outdoor areas



Ny lund og legeplads  
New grove and play area



Restaureret vandpost  
Restored drinking fountain





Skolegården er restaureret/rekonstrueret over parterreudbygningen

The school playground has been restored/rebuilt on top of the ground-floor extension

### Restaurering og bevaringsstrategi

Gentofte Kommune, Kulturstyrelsen, Dorte Mandrup Arkitekter, Erik Møller arkitekter, Tegnestuen Birthe Just et al.

Allerede i den tidlige dialog med Kulturstyrelsen blev der udviklet en bevaringsstrategi. Strategien skulle, udover sikring af den arkitektoniske kulturarv, også rumme mulighed for "vitaliseringen" af Munkegårdsskolen, med omstrukturering af skolens funktionelle disponering, til nutidig brug. Bevaringsstrategien er baseret på følgende 3 principper:

1. "Nålestiksindgreb" Bygningsdelsændringer af absolut nødvendig karakter, for at sikre en fortsat brug. Der benyttes som udgangspunkt oprindelig teknik/materialer og håndværk, tilsat state of the art elementer, hvor det forbedrer, og kan udføres, uden at ændre det arkitektoniske afsæt.

2. Tilføjelser fx af møbelkarakter, elementer der understøtter funktionalitet og nutidig brug. Elementer har egen og moderne identitet, konsekvens, og som hører til det 21. århundrede.

3. Istandsættelse og tilbageføring. Der benyttes som udgangspunkt oprindelige teknikker/materialer og håndværk.

Munkegårdsskolen fremstår i dag, i overvejende grad, som oprindeligt. Skolen var hårdt mærket af sliddet gennem årene, og den bevarende bygningsstandsættelse og vitalisering er en fortløbende proces, som holdes på sporet af bevaringsstrategi og bevaringsmanual.

Gentofte Kommunes kommunalbestyrelse vedtog, som en af landets første kommuner, en arkitekturpolitik til fremme af arkitektonisk kvalitet og sikring af bevaringsværdier, hvilket sammen med kulturstyrelsens fredning og interesse for Munkegårdsskolen er baggrunden for at der er taget ambitiøst ansvar for kulturarven.

Arne Jacobsens mesterværk Munkegårdsskolen fungerer igen, som en absolut moderne skole med arkitektoniske kvaliteter i særklasse.

### Restoration and conservation strategy

Gentofte Municipality, Danish Agency for Culture, Dorte Mandrup Architects, Erik Møller Architects, Birthe Just design consultancy et al.

The conservation strategy was already devised in the early discussions with the Danish Agency for Culture. Apart from safeguarding the architectural cultural heritage, the strategy was also meant to provide the opportunity to "revamp" the Munkegård School, by altering the school's functional layout to suit contemporary use. The conservation strategy is based on the following three principles:

1. "Pinhole intervention": this is where parts of the building absolutely need to be modified to ensure it can continue to be used. This basically involves original techniques/materials being used and manual trade skills, in addition to state-of-the-art components, where improvements are made, which can be done without changing the architectural look.

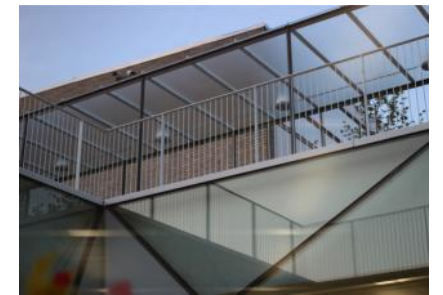
2. Additions, such as furnishings, and items supporting contemporary functionality and use. Items have their own modern identity and impact, and belong to the 21st century.

3. Repairs and restoration This basically involves using original techniques/materials and manual trade skills.

Nowadays the Munkegård School has predominantly returned to its original appearance. The school showed heavy signs of wear and tear over the years. Carrying out conservation repairs on and revamping the building are ongoing processes which are in keeping with the conservation strategy and conservation manual.

Gentofte municipal council was one of the first local councils in Denmark to adopt a policy on architecture, aimed at promoting architectural quality and protecting conservation values, which is the reason, along with the Danish Agency for Culture's conservation of and interest in the Munkegård School, why a great deal of responsibility has been assumed for cultural heritage.

Arne Jacobsen's masterpiece, Munkegård School, is once again running as a state-of-the-art school, offering architectural features in a class of their own.

Udbygning som parterreetaage  
Extension as ground floorBygningsdetaljer fastholdt, og energioptimeret  
Construction detail, enhanced energy featuresForsamlingshallen har fået helt nyt liv  
Assembly hall given a whole new lease of lifeHjemlig karakter moderniseret med nye møbler  
Intimate character updated with new furnitureBrugen af gårdrum revitaliseret  
Use of courtyard revitalised





Farver og overflader nænsomt restaureret så tekstur og lysindfald er autentisk

Colours and surfaces have been restored, making the texture and light authentic

### Pædagogik

Gentofte Kommune et al.

Munkegårdsskolen var på sin tid et udtryk for en ny holdning i forhold til undervisning og miljø. Overordnet var det målsætningen at forsøge, at genskabe noget af landsbyskolens overskuelighed og tryghed. Arkitekturen er uden side-stykke i dansk skolebyggeri, ikke mindst den kvalitet at den, uanset sin strukturelle form og at den rummer 850 børn, virker lille og intim. Strukturen i Munkegårdsskolen var et brud med 1940'ernes og 50'ernes måde at bygge store korridor-skoler, hvor børn blev stablet oven-på hinanden i mange etager. Munkegårdsskolens skala og designet af faciliteterne havde børnene i fokus.

Inspirationen fra den gamle landsbyskole, i udformningen af Munkegårdsskolen, er et fint eksempel på nordisk modernisme, hvor det traditionelle og moderne møder hinanden. På samme måde har Munkegårdsskolens potentialer udfoldet sig i samklang med fornyelserne. Parterren anvendes til tværfaglige projektføløb på tværs af klasser og årgange og har karakter af universitetsmiljø, med faglokaler der tilfredsstiller store ambitioner. De originale klasserum er, med skydedør, åbnet yderligere mod projekt-orienteret undervisning. Festsalens transformation til multianvendeligt udviklingscenter, har sat nyt skub i bygningens hjerte. Den nye, overordnede strukturelle sammenhæng, muliggjort af forbindelser der udspringer af parterreetagen, samt de nye adgange til gårdhaverne, er alle elementer der understøtter livet i en moderne skole. Revitaliseringen betyder, at de nye generationer har fået opdaterede rammer, hvori de i udfoldelse og i læring også optager og oplever den historiske kontinuitet. Fortid og nutid i sammenhæng giver en samfundsforståelse, et udbytte som Gentofte Kommune er stolte over, og som endvidere formidles til de mange hundrede undervisnings-og arkitekturinteressede gæster fra hele verden, der hvert år besøger skolen.

### Teaching facilities

Gentofte Municipality et al.

In its day, Munkegård School was symbolic of a new attitude to teaching and the environment. The overall objective was to try to recreate some of the open layout and sense of security in village schools. This architecture is unique in Danish school construction, not least for its feature of projecting a sense of being small and intimate, irrespective of its structural design and of the fact that it can accommodate 850 children. The Munkegård School's structure was a breakaway from the practice in the 1940s and 1950s of building large corridor schools where children were stacked on top of each other on many floors. The scale of the Munkegård School and the design of its facilities put the focus on the children.

Using the old village school as the inspiration for the Munkegård School's design provides a fine example of Nordic modernism where traditional meets modern. Similarly, the Munkegård School's potential has evolved in harmony with the innovations made. The ground floor is used to run cross-disciplinary projects, as well as projects across classes and year groups, creating a kind of university atmosphere, with dedicated rooms where major ambitions are realised. Thanks to the sliding doors, the original classrooms are also accessible for project-based teaching. Transforming the assembly hall into a multi-purpose development centre has given the heart of the building a new lease of life. The new, overall structural surroundings, made possible thanks to the connections emerging from the ground floor, as well as to the new access points to the courtyard gardens, are all elements which support life in a modern school. The revitalisation process means that new generations have been given an updated framework where, as part of their development and learning, they also take in and experience the historical continuity. Making the link between the past and present generates social awareness, an asset which Gentofte Municipality is proud of, and which is also conveyed to the many hundreds of visitors who come to the school every year from all around the world, with an interest in education and architecture.

Trappe og ophold  
Steps and break areaHævesænkeborde i det nye køkken  
Adjustable tables in the new kitchenNye faciliteter i de oprindelige klasselokaler  
New facilities in the original classroomsLeg i rammer med historisk kontinuitet  
Play as part of historical continuityEn belgisk lærer-delegation  
A visiting group of Belgian teachers





#### **Munkegaardsskolen 1949 - 2013**

Mønster for og bagside: Illustration af skolens scenetæppe, designet af arkitekt Arne Jacobsen

Sort-hvid foto: Strüwing Foto

Akvarel: Arne Jacobsen, Danmarks Kunstbibliotek

Illustrationer: Projekttegninger udført af Dorte Mandrup Arkitekter

Redaktion og farvefoto: Gentofte Kommune v. Christian Olesen et al. (cho@gentofte.dk)

#### **Kildefortegnelse:**

Carsten Thau og Kjeld Vindum, "Arne Jacobsen", København 1998

Martin Keiding (red.), "Munkegårdsskolen", Arkitektur DK, 2010/3, s. 80-97

Poul Erik Skriver (red.), "Munkegårdsskolen", Arkitektur DK, 1957/1, s. 1-11

Félix Solaguren-Beascoa, Arne Jacobsen, approach to his complete works 1950-1971

#### **Munkegård School —Municipal school - restored and revitalised**

Pattern for front and back cover: Illustration of the school's stage backdrop designed by Arne Jacobsen

Black and white photos: Strüwing Foto

Watercolour: Arne Jacobsen, Danish National Art Library

Illustrations: Project drawings produced by Dorte Mandrup Architects

Editing and colour photos: Gentofte Municipality, Christian Olesen et al.

#### **List of sources:**

Carsten Thau and Kjeld Vindum, "Arne Jacobsen", Copenhagen 1998

Martin Keiding (ed.), "Munkegårdsskolen", Arkitektur DK, 2010/3, p. 80-97

Poul Erik Skriver (ed.), "Munkegårdsskolen", Arkitektur DK, 1957/1, p. 1-11

Félix Solaguren-Beascoa, Arne Jacobsen, approach to his complete works 1950-1971