

A hospital in the country

by TMK Architekten

More autonomy for the patient –
interview with C. F. Møller Architects

Modern care concept
in Schwabing, Munich

Cancer center in Heidelberg
by Behnisch Architekten



Christine Nickl-Weller and Hans Nickl are experts in health care buildings and are teaching at professorial level at German universities.

To the point: The patient of the future

pulse in conversation with Christine Nickl-Weller and Hans Nickl, Nickl & Partner

We are currently undergoing demographic change. What effect has this already had on architecture?

A lot has changed in terms of the care of the elderly. We don't have old people's homes anymore, but assisted living, then there are the homes for dementia patients, institutions purely offering care and hospices. In the hospital sector too a great deal has changed. Essentially, people's awareness has changed. Patients are increasingly selecting the hospital they wish to be treated at.

So the competition for patients has begun?

Exactly. And it'll get stronger. I mean, when someone has been paying in their whole life – and healthcare is expensive – he has a right to get what he wants.

This can also include the desire to go to a café or bank on the hospital grounds.

That's right. Patients want to find a pleasant atmosphere on entering a hospital, one that can take their minds off their illness. It should certainly not be like falling into a black hole and feeling helpless.

Patients are increasingly frowning upon a clinical atmosphere. They would much rather have bright, friendly surroundings.

But that doesn't apply to all areas. Someone who has just had an accident, for instance, wants to see the medical equipment, which reassures him or her that they are in good hands.

Does the term "patient hotel" mean anything to you?

I consider a hotel also to be beyond the typical hospital atmosphere of old, when we automatically associated hospitals with the caustic smell of disinfectant. Seeking to create a pleasant home environment in hospitals has become the standard today.

In this issue of *puls* we ask German architects how they want to live in old age. Most of them say they would like to stay at home. And you?

I'd tend to agree. Which is why the "assisted living" sector is so important for us. For instance, we built a residential complex for silver-agers in Landsberg am Lech. There residents can stay in their apartments for a relatively long time and at the same time are safe in the knowledge that they have access to medical care. This, or something similar, is what we would imagine in later life.

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cuando, sobre los cerros de mis pechos,

Short paths: At the senior citizens' residence Santa Rita on Menorca, all the facilities and rooms are on one and the same level – including access to the surrounding gardens. Moreover, Manuel Ocaña's studio elected to do without corridors and doors.

Off to the patient hotel

Things are happening in the healthcare sector: Suddenly hospitals are competing with one another and actively wooing patients. At the same time expectations are rising, particularly among the increasing generation of “young elderly”. The architecture is responding with highly varied solutions. One clear trend however is more individualism and self-determination – both regarding the hospital bed and home care.

By **Insa Lüdtkke**

One in four girls born today will reach 100 years of age, so the findings of a 2010 study by the University of Cologne. And according to a 2008 survey by the WHO (World Health Organization), in 2000 there were 600 million people worldwide aged 60 or over. The organization expects this number to double by 2025 and reach over two billion by 2050. Then, for the first time in history, there will be more elderly than young people on earth. The same goes for Germany: Whereas in 2005 roughly 3.6 million people in Germany were over 80 years of age, in 2050 the figure will be ten million, almost three times that, although in absolute terms the population will continue to shrink. For it is not only increased longevity that informs the demographic shift; at the same time birth rates are stagnating in industrialized nations – be it in the West or the East. This is nothing new; figures have been low for around 40 years now, for instance in South Korea. There the birth rate is currently 1.19 children per woman of child-bearing age. This is the lowest rate among OECD states. It is against this background that the image we have had of old age hitherto must and will change. Instead of seeing old age as a stage of increasing physical and mental impairment, more attention can be

focused on the potential of an elderly person, deriving from their experience and composure, for instance. This also means that we don't have “the elderly”, but highly varied lifestyles. Whether in the classic role of grandparents or adventurous globetrotters, it is not least the wallet, biographical aspects and level of health that decide.

The liberalized healthcare market

Health is the most important commodity – including in economic terms. Today the healthcare market, with a gross national product (GNP) of over 10 percent, is among the most significant economic factors. According to the study “Health Style – Die Gesundheitswelt der Zukunft” (Trendbüro Hamburg, 2009) advances in medical technology are considered one of the most important drivers of the healthcare industry. At the same time, our attitude to and perception of health is influenced by the possibilities of modern medicine. Biotechnology, genetic engineering, stem cell research and therapy and nanotechnology will in future offer great potential for new methods of healing and prevention. This enables, among other things, the development of individualized treatments. Not only are we living longer, but the proportion of years we are



Nigel Young / Foster + Partners



healthy is also increasing. This leads to growing demand for healthcare services. The aging baby boomers will shape the next generation of senior citizens, and face old age with joie de vivre, a desire for self-determination and high level of activity.

Since 2004, we have been seeing a transformation from regulated healthcare to a liberalized healthcare market. At that time, so-called diagnosis related groups (DRG) were introduced, meaning that service providers can only charge a certain sum per surgical operation. Between 1991 and 2007 the average length of stay in a hospital almost halved from around 14 to eight days (German Federal Statistical Office), and it is continuing to fall. This also forced service providers to remodel their building structures, and even though only the odd closure has been witnessed hitherto, a marked decrease in beds can be observed.

Efficiency and comfort as seals of quality

Hospital providers must face the competition for patients. As highly specialized centers of competence, they are increasingly concentrating on specific operations, leading to increased experience and professionalism. A clear profile of services is emerging, and we could even talk of branding in the hospital sector. Rating portals on the

Internet offer interested parties information on the frequency and quality of surgery. Hierarchies fall away, specialist departments are done away with and instead operations are conducted in central high-tech ORs. Technologization by means of special software solutions is playing an ever greater role. For instance, with a digital patient record, doctors can access all the relevant data not only in the OR, but also on his or her rounds of patients' rooms.

Thus efficient functional and comfort zones are becoming seals of quality. Soft factors such as ambience as well as individualized meal plans and services are becoming ever more important criteria when choosing a hospital. The first hospitals are also calling it what it effectively is: a patient hotel. For instance, at Ostalb Klinikum Aalen the 1950s ward wing was replaced by a new 'hospital hotel' by Heinle Wischer und Partner Freie Architekten. Patients can recover in bright, homely rooms. In dining rooms, common rooms and at meeting places patients and visitors can come together to spend some time. This hospital/hotel hybrid is on the one hand conceived for relatives and on the other for so-called "low-care" patients, i.e., those who can be moved out of the intensive care unit after surgery and no longer require medical care. As in a hotel, service, comfort and homeliness dominate; medical

The central focal point of the private Circle hospital in Bath, which opened in 2010, is the elegant, expansive atrium. It was designed by none other than Lord Norman Foster (top). The cuboid care home for the elderly south of Lisbon, designed by Aires Mateus & Associados, is nestled in the side of a mountain (right).



Sergio Guerra

equipment takes a backseat. “Outpatient over inpatient care” is also the political slogan. Moreover, it reflects most people’s wish to recover or be cared for at home. It is increasingly the case that local health centers cover outpatient care. Thus more and more operations are being performed at such institutions, with patients recovering at home. This saves money and in addition it has been proven that patients can recover better in a familiar environment.

Aging in style

Irrespective of age and social background, today life cycles can no longer be schematically and linearly set out as in the past: childhood, education, career, family, retirement. Today pensioners in their mid-60s may start studying or, at the other end of the scale, may have to work at home to earn money to supplement their scant pension. In the future, when people live longer and more active lives, they will be able to and will have to structure their lives in an increasingly individual way. This development requires appropriate living arrangements. As Trendbüro Hamburg recently highlighted in its study “Aging in Place – Lebensqualität im Alter”, the future will be characterized by aging in familiar environments. Living arrangements – precisely for later life – will have to increasingly

set themselves apart as a colorful range of options in order to satisfy the heterogeneous demand. Alongside more flexible floor plans, the home will also be more strongly shaped by building-technology and IT products (controlling room temperature/air conditioning, security systems, Internet/multimedia) and ecological considerations. Moreover, the younger elderly residents will in future want a greater say in communal living arrangements. Ideally, young families, singles, people with disabilities and elderly people will all live in close proximity. The tenants’ association SelbstBau e.G. took this route and three years ago had Berlin Karlshorst School, a listed brick building dating to 1899, converted into a cross-generational, integrative residential building, which in addition now also houses the architect’s studio. The one- to three-bedroom apartments measure between 55 and 140 square meters, 16 of the 21 units have few barriers and five are fully wheelchair accessible. The initiators of the project emphasize mutual support in daily life.

Neighborhoods for everyone

The care home as a component of the supply chain is not outdated. Precisely for elderly people and their relatives, an inpatient institution can greatly relieve the burden and be a good solution, for instance, if it is integrated into



Art as distraction: At the Emma children's hospital in Amsterdam, patterns created by artists emit a sense of assurance and can help alleviate the children's fear. There are various places for parents to retreat at the hospital (above). The path into Eppendorf University Hospital, redesigned by Nickl & Partner, leads visitors straight through the large foyer. A café, shops and a bank branch are integrated into the complex not far away (below).



the residential neighborhood and impacts outwards. As well as offering facilities for residents, the attractive architecture can also help upgrade the neighborhood. In this way, established social contacts remain intact. With this type of building too, structural changes are evident even today. Generally with a maximum of 80 places, the buildings are considerably smaller than in the past, tend to be located in city centers, where the life is, and offer homely settings instead of a long, anonymous corridor. For example, when building a new senior-friendly home in Norra Vram in Sweden, the studio Marge Arkitekter drew inspiration from the architecture of 19th-century Swedish manor houses. The rooms of the 40 residents are in individual houses with separate access to the garden, with the kitchen-cum-living room serving as the communal hub. All residents are able to withdraw to their rooms, which are oriented towards the central kitchen-cum-living room with its adjoining utility rooms and specially equipped bathroom. This is where the residents spend the day in groups of around 12 to 14, supported by health workers and housekeeping staff. They can reach the garden via a terrace, and even those using wheelchairs and walking aids can easily reach the raised flower beds.

Homely care homes and "service living"

In the long term, care of the elderly will increasingly take the form of outpatient daily care, be it as part of an inpatient establishment or integrated into a regular residential building. Thus here too, the future lies in the interweaving and convergence of inpatient care services on the one side and the healthcare sector on the other side of the supply chain. In-between, the housing industry and the commune as interface and mediator will increase in significance. Thus homeliness will take up residence in care homes, while in return housing companies will offer as "service living" together with outpatient services additional services ranging from household-related jobs to professional care. The neighborhood, established on a no-cost basis, will be required to serve as a link. Then we will be very close to the original meaning of living. The word stems from the Gothic "wunian" and means something like "enclosed" and "to be content".

A homely setting instead of long, anonymous corridors: In Norra Vram in Sweden, Marge Arkitekter drew inspiration from the structure of traditional Swedish manor houses. The rooms of the 40 residents are distributed in individual houses, each with its own access to the garden.

Insa Lüdtke is an architect and freelance journalist. In 2008, together with Eckhard Feddersen she founded the consulting company "Cocoon Concept" in Berlin, which specializes in "changing living patterns". Insa Lüdtk co-authored the architecture book "Entwurfsatlas Wohnen im Alter" (2009, Birkhäuser).



Johan Fowelin





In order for pensioners to be able to live at home for as long as possible, a number of preconditions must be satisfied. Alongside full accessibility, the automatic control of lighting, heating and door communication offers comfort and safety.

Safety, comfort and energy efficiency with KNX

Not only are “best agers” highly mobile and active, but they also tend to have a more modern lifestyle than the generation before them. Moreover, they possess greater purchasing power. In terms of product development, today industry is also increasingly considering the needs of the over-60s age bracket. Building automation using a KNX system is in great demand among the older generations.

By **Volkmar Runte** Photos **A. Rinuccini**

In order to remain independent for as long as possible, most pensioners wish to remain living in their “own four walls”. Yet to make this possible, the houses and apartments have to satisfy a number of preconditions, starting with full accessibility at the entrance and in the bathroom and covering the automatic control of lighting, heating and door communication. Naturally, safety is also high on the agenda, requiring suitable house call and emergency call systems.

Cross-generational technology

For 20 years the KNX standard for building systems technology has been a guarantee for more safety, comfort and energy efficiency in people’s own homes. The associated building automation is cross-generational. KNX is a so-called BUS. BUS stands for “Binary Unit System” and is the foundation of intelligent or networked building technology. For the technical devices in a building to be able to exchange their information, uniform standards are required via which they can communicate with one another. To this end, in addition to the power network, the KNX standard uses a low-voltage line. The individual

controlling and operating elements, sensors and actuators communicate via this line. The sensors, for instance, measure temperature, humidity, sunlight or motion and send corresponding information so that the heating is turned up, the lights switched on, the shutters lowered or the alarm system activated. The data is gathered in one or several control centers, containing a panel or switch which can be used to control the heating, lighting, air conditioning or ventilation.

Reclaiming waste heat

More and more elderly people are also realizing the value of KNX and its simple and often self-explanatory function. The standard enables the user to control all the electrical functions in the house or apartment via a smartphone, computer, touch panel or switch. For example, shutters and windows can be networked with a weather station on the roof. This sends a signal to the central computer so that, for instance, when it is windy and rainy the shutters are automatically raised and the windows closed. Moreover, various lighting modes create the right mood at the push of a button. An individualized feature,



the KNX system can be used to activate particular lighting settings upon entering the house. It can be used to control the colored orientation light in the hall area, the reading light in the living room or the kitchen lights. It is also possible, via the weather station, to adjust these settings in line with the seasons. Moreover, KNX can be used to switch on the stereo system or television, offering residents their own personalized ambience as required.

Energy-saving potential

In future, energy efficiency and sustainability will be more important than ever, for property costs will be increasingly defined by the follow-up costs. Without automation, lights, heating, air conditioning and ventilation systems are often continually in operation, spelling high energy consumption. With building technology fitted with KNX, decentralized BUS devices control heating, air conditioning, illumination and other energy-consuming systems as required. Timer programs ensure that residents have the light, heat, and air conditioning they need when they are at home, while at times when the building is not in use these systems are turned down or switched

off. Presence detectors enable even more energy efficiency, further limiting consumption. Moreover, networking all devices enables the integration of sun protection systems with daylight redirection, ventilation flaps for cooling at night, locking of window ventilation flaps, solar heat generation etc., leading to further energy-saving potential. Finally, a central management system can be used to monitor, analyze and further optimize energy consumption. Trailblazing for efficient energy applications are smart metering and smart grid concepts. There are now roughly 7,000 trained and experienced system integrators throughout Germany who can install building automation systems with KNX.

Possible uses

Here are some examples that especially illustrate KNX's ease of use.

Illumination – The electricity can be switched off upon leaving the house by pressing a button on a central switch located near the front door. The necessary technological areas or devices are not affected, such as heating,



Owing to its often self-explanatory function, many elderly people too are increasingly recognizing the value of KNX. The standard enables users to control, for instance, all electronic functions by way of a touch panel in the apartment – as here in the CK 06 residence in Paris, designed by Pablo Katz.

air conditioning, computers and communication systems and the alarm system (activated).

Shade – Sun shading or privacy screens can be opened or closed according to the weather or position of the sun or as defined by the user.

Windows and doors – Automatically closed during wind or rain, e.g. roof windows. Ventilation is activated when air quality falls below a certain sensor-measured level.

Heating and air conditioning – Individual control of each room in order to respond to new requirements in a room and after use automatic return to basic settings. Can be controlled remotely via smartphone or upon return from vacation. Similar controls are also possible for air conditioning systems.

Alarm systems – Security features in the form of motion detectors in combination with video and sound recording systems for inside and outside. Presence simulation by means of light and other actions such as activating shutters or window ventilation flaps. Permanent light in

front of the entrance areas, in line with the season and brightness.

Watering – Automatic activation of garden sprinkler system, can also be linked to hours of sunlight.

Household appliances – Safety switches for the hob, oven (time-controlled), refrigerator and freezer, with any faults or failures reported to a service center.

Computers and communication systems – These systems usually have continuous power supply. When it is interrupted, a message is immediately sent to the service center or directly to the user's cell phone.

Likewise, users can check the status of the KNX system remotely, e.g., via a cell phone.

Volkmar Runte is Spokesman for GGT Gesellschaft für Gerontotechnik (German Society for Gerontechnology) in Iserlohn. He co-founded the magazine "Das Optimum – Magazin für Komfort und Qualität", the mouthpiece of the GGT. Moreover, he is Managing Director of the publishing house Verlag 1.01.

A hospital in the country

The new Johannes-Wesling Klinikum is attractively situated in the countryside south of Minden. The low-rise, three-story building is structured by way of numerous landscaped inner courtyards and offers patients, staff and visitors wonderful views of the natural surroundings.

By **Britta Rohlfing** Photos **Jochen Stüber**

In the space of just three years, one of the largest new hospitals in Germany was built on the edge of Minden. Named after the physician Johannes Wesling of Minden, the new hospital replaces two old institutions in the town center. With over 800 beds and equipped with state-of-the-art technology, the hospital serves more than just the region in which it is located. Düsseldorf-based architecture studio TMK Architekten + Ingenieure won the competition to build the hospital in 2003. The client specified a building of no more than four stories – spelling a very flat profile given the hospital's size.

TMK's design divides the building, which is roughly 300 meters long, into several individual structures linked by two main routes, a north and a south axis. Inner courtyards and green areas in-between create a connection to the outside space, opening up the building and providing most hospital rooms with daylight and natural ventilation. For the architects, key aspects of the design were scale and transparency. Despite the enormity of the edifice, patients, staff and visitors can easily find their way around. With its three stories, the hospital is a manage-









Transparency and connection to the outside space as guiding principles – The visitors' café opens up to the south with a large glass façade, and in patient rooms floor-to-ceiling windows afford views of the countryside.

able size and offers plenty of expansive views. The heart of Johannes-Wesling Klinikum is the Admissions, Diagnostics and Treatment wing, which stretches along the entire width of the building. North of it is the Central Logistics section with the central storage area, kitchen, central sterilization, workshops and the pharmacy. The wards are joined on on the south side – and thus have the most attractive views out over the Wiehen Hills. An adjacent lake mediates between the architecture and landscape and forms the transition from the designed space to the Wiehen Hills.

Separate patient and visitor flows

Right from the entrance area onwards, the paths of patients and visitors diverge. Visitors can reach the various wards via open stairwells and elevators at three loca-

tions from the southerly visitor axis with cafés, shops, a hair salon, patient library etc. There are 21 wards on two stories each with 30 beds, most of which are in two-bed rooms. The three-level care system relieves pressure on the regular wards and ensures that every patient is cared for according to his or her individual medical needs. The central surgery department, which can be reached from the parallel north, or patient axis, is on the first floor, and linked directly to the Intensive and Intermediate Care Units. On the ground floor the north axis leads to all outpatient, examination and treatment areas. In architectural terms, the Parent-Child Center has especial significance: All departments from Obstetrics, Pediatrics and the Early Diagnosis Center are brought together here under one roof. The visitors' café, located in the south axis, is a popular meeting place in the hectic daily life at the hospital.



Layout 2nd level



Layout 3rd level

Here too, the architects sought to achieve transparency and views of the outside space. A full-length glass façade offers a view of the landscaped inner courtyard, the hospital's private lake and the hills behind it.

New appointment and resource management system

Great attention was paid to installing cutting-edge technology throughout the hospital. For instance, WLAN access points enable wireless communication, be it for doctors to consult test results via Notebooks on their patient rounds or for example to look at X-ray images in the operating theater. Moreover, a newly developed appointment and resource management system is used, based on Web technology. Patient appointments are coordinated in a centrally managed appointments schedule. The facility technology is located at the center of the lower basement: From here, robot-controlled trolleys are sent to all hospital departments to deliver fresh laundry, medication and meals or take away used dishes. Moreover, a fully automated laundry service ensures staff always

View of a landscaped inner courtyard, separating architectural elements (top), registration desk at an outpatient section (center), patient axis with wall mosaic of medicinal plants (right). The image changes according to where the observer is standing.



have clean clothing available on time. Entrance to the hospital is controlled by way of an electronic access system. Individualized access authorization codes are entered in the staff's transponders and cover a set timeframe.

Great attention was equally paid to the landscaping concept: The surroundings invite patients and visitors alike to take leisurely walks. An "arboretum medicum" informs visitors about the medicinal properties of the trees and plants it contains. Landscape architects Kortemeier Brokmann designed the inner courtyards breaking up the architecture with a therapeutic garden, a courtyard for families, a terrace courtyard with a restaurant, an art courtyard and a chapel courtyard. An artist designed the latter with a chapel as an accessible wooden sculpture, offering a sanctuary and delightful oasis of calm in daily hospital life.

Project partners

Client

Zweckverband der Kliniken im Mühlenkreis

Architect

TMK Architekten + Ingenieure, Düsseldorf

Landscaping

Kortemeier Brokmann Landschaftsarchitekten, Herford

Integrated products by ABB/Busch-Jaeger

Switch series Reflex SI including Busch-steplight; shutter switches; plug sockets with integrated higher level of protection against accidental contact; plug sockets with LED function display; special solutions for the OR, exterior motion detectors; central plates for data and communications systems.

A focal point

The National Center for Tumor Diseases (NCT) in Heidelberg brings together doctors, researchers and patients under a single roof. The building offers a network of interdisciplinary medical care with cancer research of teaching hospital standard. With their intelligent choice of materials and sensitive interior design, Behnisch Architekten have succeeded in designing a hospital without the typical clinical atmosphere, that can foster and generate in patients a feeling of confidence and trust.

By **Britta Rohlfing** Photos **Adam Mørk**

The city of Heidelberg, charmingly situated on the River Neckar, attracts millions of tourists with its picturesque panorama of the castle and old town. Yet the city is currently reinventing itself, not wanting to rely any longer on its image as a romantic hotspot. The recent structural change is creating an international climate in the city: A good dozen medical and scientific research institutions have taken root in the past few decades and are having a lasting influence on the development of the city. One such establishment is the new National Center for Tumor Diseases, designed by Behnisch Architekten. Located on the University Hospital campus between the Head Clinic and Pediatric Clinic, it brings together under one roof interdisciplinary medical care and cancer research of teaching hospital standard. It is a central point of contact for cancer patients, who are cared for by an interdisciplinary team of experts on the basis of the latest scientific findings. The clients, Deutsche Krebshilfe (German Cancer Aid) and Dr. Mildred Scheel Stiftung für Krebsforschung (Dr. Mildred Scheel Foundation for Cancer Research), did not want a typical hospital building, but rather wanted the close links between hospital care

and research to be reflected in the architecture. Indeed, the new building was to support the interdisciplinary concept and model character of the institution with its architecture.

Transparency and openness

The Stuttgart-based architects headed by Stefan Behnisch, David Cook and Martin Haas deliberately chose to give the new building a transparent, open and inviting design. The heart of the clinic is formed by the central, light-flooded atrium extending up four stories. Conceived as a focal point for doctors and researchers, patients and visitors, it is the central point leading to all areas of the building. The reception is located in the middle of the ground floor, making it easy for visitors to find their way to all departments. Open, single-flight stairs lead visitors from level to level. Even the choice of materials is untypical of a hospital: polished screed as flooring in the foyer, exposed concrete walls, oak-slat handrails on the stairs alternating with glass barriers. These materials generate an atmosphere of confidence, trust and professionalism.

The heart of the hospital and social interface – the atrium, extending over four stories, is bright and inviting and has a slightly sculptural feel thanks to the skylights.





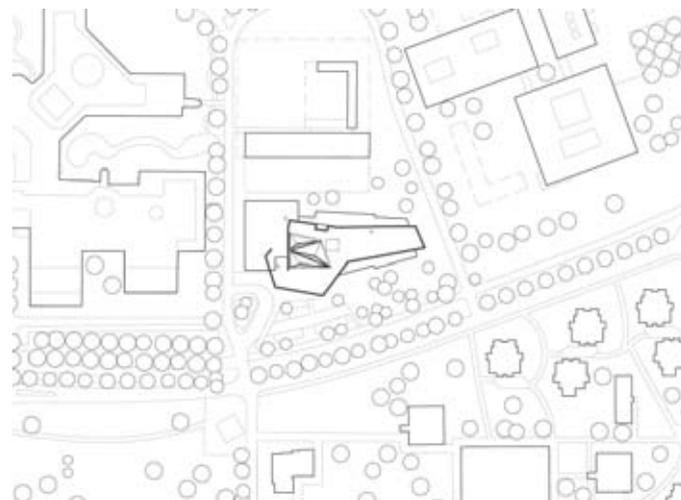
Geographically, the building responds to its immediate surroundings. The eastern part of the structure references the orthogonal shape and height of the adjacent Heidelberg University Hospital Head Clinic. This section, with its clear, functional structure, houses on three levels the lab areas. The rest of the building has a freer design and is oriented towards, in a mediating function, the neighboring pediatric department. Particularly eye-catching is the two-story structure perched on top with its plaster façade in the architecture studio's typical manner of "stacking", which appears to float over the stories underneath. The building's sculptural form lends it its own identity on the campus. Incised haunches on the windows generate playful shadows on the façade depending on the position of the sun. With its cantilevered northern (over the main entrance) and western sections, the stone structure contrasts with the two lower stories, whose façade of dyed green glass references

the environment. These two lower stories house the clinical areas, while the two upper levels contain the consultancy rooms and tumor conference suites, as well as offices for researchers and doctors.

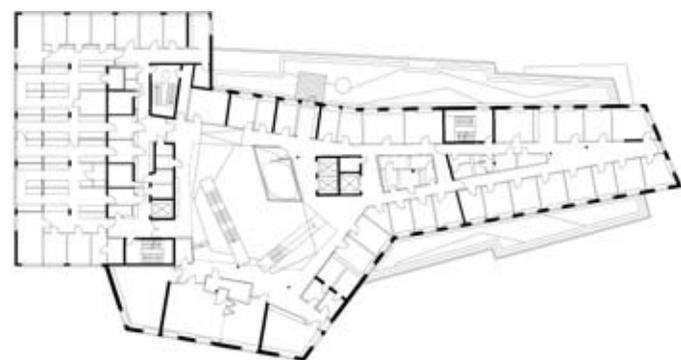
Lounge-like treatment rooms

The clinical areas for patients were designed in a friendly fashion with plenty of oak. The examination and treatment rooms are arranged along the façades, while distinct waiting areas afford views of the landscape. Treatments are administered in open, lounge-like areas containing half-height furniture and partitions and small groups of three to five recliners specially designed for the NCT. Delicate curtains create almost a homely atmosphere. The extensively glazed façades offer patients unobstructed views of the garden, which they can also use between treatments. An adjoining terrace can also be used during chemotherapy. Moreover, there is a quiet

The NCT's sculptural form lends it its own identity on the campus (left). The treatment areas are equipped with treatment chairs specially developed for the NCT (right).



Site plan



Layout of 2nd story

room where patients and visitors can retreat, which can be reached from the atrium on level two. It literally seems to float in the air like a woven nest of wide metal bands. Inside, a skylight affords a view of the sky. Also accessible from the atrium are a café with seating benches specially designed by the architect, a multi-purpose hall and a fitness room. The Center fulfils the requirements of an energy-optimized functional building: The temperature and airflow conditions in the building were investigated with the aid of a thermal building simulation. Furthermore, a combination of component-activated ceiling slabs and partial air conditioning enabled the costs of installing and running the ventilation system to be optimized. The building received the accolade “Beispielhaftes Bauen Heidelberg 2003 – 2010” (Exemplary building in Heidelberg 2003 – 2010).

Project partners

Client

Deutsche Krebshilfe e.V. / Dr. Mildred Scheel Stiftung

Architect

Behnisch Architekten, Stuttgart

Useful floor space

5,565 square meters

Integrated products by Busch-Jaeger

Lighting controlled via presence detectors and KNX system

Schwabing's gardens

Nestled between luscious gardens is Caritas Haus St. Nikolaus care home in the Schwabing district of Munich, designed by Langecker + Partner Architekten and completed in 2008. The concept of combining care with sheltered accommodation relies fully on communication – providing for almost 200 inhabitants a bright and friendly environment, which moreover boasts state-of-the-art technology.

By **Lasse Ole Hempel** Photos **Stefan Schumacher**

Even on the city map, the location of the St. Nikolaus home for senior citizens looks attractive. It is at the western end of Osterwaldstrasse, bordering directly on a small park. The world-famous Englischer Garten begins very close to it, to the south. Yet it hasn't always been this green and laid back in this part of North Schwabing, which today is dominated by tidy detached houses and is one of the most expensive areas in the Munich rent index. Indeed, it used to be dominated by small industry, and presumably no-one would have headed to the northern part of Englischer Garten to enjoy a picnic. This area was once home to the Krauss-Maffei locomotive factory, which remained in operation until the 1990s. Depending on the direction of the wind, the scent of industrial production could be smelt wafting through the landscaped gardens. Today, the area is classic proof of the fact that the upgraded inner city of the Bavarian metropolis is continually expanding. Not to be underestimated as a contributory factor was the fact that the heavy traffic on the Middle Ring road was eliminated by routing the road underground.

Trees were saved

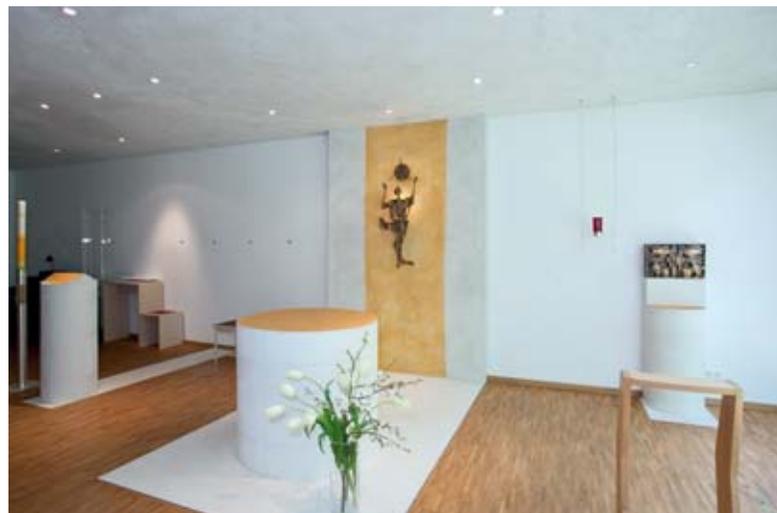
The new St. Nikolaus home for the elderly also contributed to the upgrading of the district. Previously the site was occupied by a refugee home, built in 1948 initially as a provisional institution, but which was repeatedly extended and from the 1950s was used as a care home for the elderly. When the building was no longer fit for use, it soon became clear that a renovation was out of the question. The building had to be demolished, and the new home had to offer at least the 130 places of the previous building. Today, St. Nikolaus offers 177 places, plus ten loft apartments, whose residents are entitled to use the home's care services.

St. Nikolaus is composed of three sections. This division was necessary from the start, as the new home had to have exactly the same outline as the original one. In addition, the trees on the site had to be left untouched where possible. This was achieved by means of additional measures such as sheet piling. The design by Langecker Architekten, which won the VOF procedure for the awarding of

Mediterranean colors: The ochre paint of the central main structure references the foliage of the large chestnut trees in the garden at the rear of the building. Moreover, the wooden panels offer a pleasant change.







The single rooms, measuring 25 square meters, offer plenty of opportunity for individual expression (top left). The large, communicative communal areas are color coded (bottom left and top right). The residents are particularly proud of the chapel (bottom right).

professional services contracts, envisaged the new building occupying only 10,000 square meters, as opposed to the 15,000 square meters previously designated. The remaining 5,000 square meters were sold and the profits went back into the care home's funds. An exclusive residential development for senior citizens was built on the site, offering senior-friendly homes with the option of using St. Nikolaus's services and ultimately moving into the neighboring care home.

Color coding

Despite this considerable additional income, we can term St. Nikolaus, with a construction volume of around €18 million, a low-budget project. However, it is one where the possibilities were exploited more or less to the full. You enter the building through the protruding central section, which in bold other looks almost Mediterranean. The building features a stairwell and two elevators. On

each floor, a group of 15 residents shares a wing. To aid orientation, each group has its own color and name. The photo boards on the section walls are intended to help especially those residents suffering from geronto-psychiatric illnesses such as dementia. Here, residents can see pictures of streets and squares in Munich they may be familiar with. A special area for dementia-sufferers is located on the ground floor of one wing. Special measures have also been undertaken here for patients at risk of running away, for instance doors protected by number codes. As a result of optimized daily practice, today at St. Nikolaus dementia patients are cared for together with other residents in a residential unit. Outside, panels along the façade create further colored accents.

Integrative services

It is particularly unbeneficial precisely for elderly people to be left on their own and receive no motivation or



encouragement. Thus from the very start, the structural concept sought to integrate the residents into a lively environment. And it sought to enable those who are already physically very restricted to at least find a connection to their environment by way of watching and participating. Today we know that even just participating in the lives of other elderly people can be a great help. Thus great importance was attached to the communal areas, located at the center of each group of residents. Here residents can cook for themselves or watch television, and in the inviting library area, furnished with comfortable recliners, sofas and wooden bookshelves, they can read and sit together.

The building's own chapel, where Mass is celebrated every Sunday, is a particular source of pride. On special occasions, for instance Mass on Christmas Eve, the seating area can be impressively expanded by way of a sliding door in the direction of the adjacent café. The light café faces the garden with its glazed front and has a sunny

terrace. Anyone taking a seat here on a hot summer's day will appreciate the proximity of the shading trees. The rattan chairs and striped awnings generate a coffee-house atmosphere – something you generally would not expect to see at a care home. Given this, it is hardly surprising that in summer at least social life is concentrated on and around the terrace and adjoining, bench-lined grassy areas. The café also hosts movie showings and other events.

In tune with the Internet generation

All corridors and rooms are fire-monitored, alarm notifications are sent to a central point in the building and trigger the alarm, and notification is immediately and directly sent to the fire brigade. In preparation for future, Internet-proficient generations, all rooms feature the provisions for a comprehensive network connection. The strict budget constraints put paid to the architect's plan to install a photovoltaic system on the roof. Despite this, the building is still able to conform to the lowest energy

Urbanity and green flair: St. Nikolaus lies nestled between great trees. Using a walker, residents can easily get to the Englischer Garten – or other places further afield in the city of Munich.



Layout ground floor



Layout single room



View from the south



Layout 1st–3rd story

standard – owing, among other things, to the ventilation control system with heat recovery. This investment pays off particularly in care homes, because the system ensures that sufficient air is always exchanged in the rooms, having a positive influence on the air quality throughout the building. Especially for residents who tend never to open the window, or only rarely, a pleasant room environment is still guaranteed.

The integrated KNX system enables the central management of lighting, sun protection and ventilation. Linked to the wind and rain sensor installed on the roof, it enables sun shutters to be raised when a storm is coming.

Project partners

Client

Caritasverband der Erzdiözese München und Freising,
GF Altenheime, Munich

Architect

Langecker + Partner Architekten GbR

Construction period

2006 - 2008

Construction volume

€18.1 million

Integrated products by Busch-Jaeger

KNX system; switch program Reflex SI 214



TMK Architekten

Get well soon

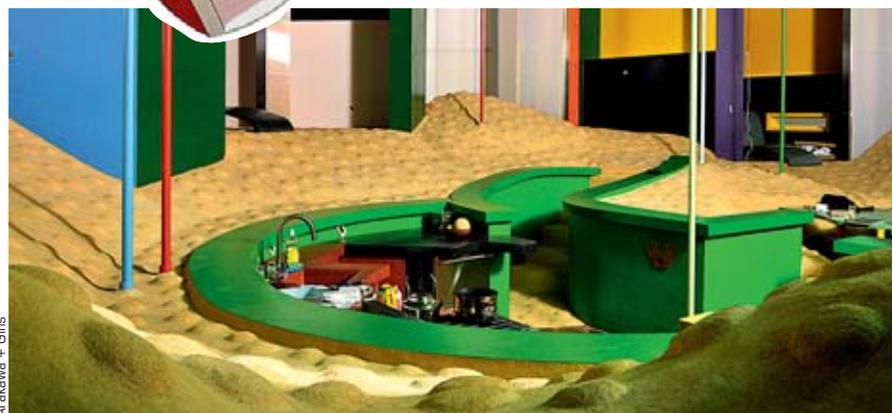
That disinfectant smell in the corridors and the clinical atmosphere are a thing of the past. The postmodern architect takes an holistic approach and conceives green and pleasant healthcare institutions that conceal in their interiors extensive technology.

TMK Architekten: National Center for Tumor Diseases, Heidelberg

TMK Architekten's competition entry for the National Center for Tumor Diseases (NCT) in Heidelberg will no doubt remain an eye-catching vision for some time to come. The studio Behnisch Architekten won the competition, organized by the client Deutsche Krebshilfe (German Cancer Aid) and the Dr. Mildred Scheel Stiftung für Krebsforschung (Dr. Mildred Scheel Foundation for Cancer Research). The building was opened in late 2010 (see p. 20-23). TMK Architekten had an interesting solution to offer the up-and-coming scientific and technological center Heidelberg, which even on the outside rejected all associations with hospitals and wards. In TMK Architekten's design, the ring-shaped NCT rises up from the ground, is supported on stilts and appears incredibly light thanks to the transparent ground floor. It is designed to rouse the interest of both passersby and visitors and receive them with the gesture of a protective hand in the interior of the circular façade. The edifice is divided into three elements: Above the garden story, which houses the storage and disposal areas, stretches an amorphous ground floor with transparent façade sections and a large lobby. The two circular upper stories contain the interdisciplinary treatment, consulting and day-clinic departments. From the start, the architects sought to eliminate the danger of people confusing the center for the nearby rectangular buildings of Heidelberg University, with success.

Arakawa and Madeline Gins: Architecture against death

The Japanese-American artist duo Arakawa and Madeline Gins dedicated their entire artistic research and work to aging and dying. Always true to the motto “You are as old as you feel”, their architecture seeks to defy the death of its residents with – it seems there is no other word – inconvenience. They called their oeuvre “Reversible Destiny”, which is manifested in poems, books, paintings and architecture. Over the years, they planned and modified their concept of “Architecture Against Death” in various visions. It finally assumed concrete form on Long Island as life-prolonging villas. Gaudy colors, doors and windows you have to bend down or climb up to define the buildings. A bumpy floor relief demands mountaineering skills and “modern” comforts such as a lavatory are deliberately absent. The constant effort required, say the artists, leaves death no chance to take people by surprise. For sooner or later, comfort leads to death. Their greatest vision, the “City of Reversible Destiny”, an entire settlement designed to prolong life, is still waiting for investors. Arakawa, who died in 2010 aged 73, will no longer see the construction of this extraordinary form of senior-friendly living, which is not fully accessible but full of obstacles. However, Ms. Gins is continuing to devote all her energies to a type of architecture designed to counter the aging process.



Arakawa + Gins

Pristmangoode: Recovery Lounge

Countless specialists have tried their hand at the difficult task of creating more efficient and cost-saving healthcare systems. Now Pristmangoode, the renowned British design studio, has made a bold, visionary, very concrete proposal. Based on optimized aircraft cabin design, where passengers are offered the greatest possible comfort in a very small space, they developed their “Recovery Lounge”, an outpatient clinic that offers entertainment for waiting patients, optimized working procedures for doctors and nurses as well as flexible usage. They drew on experience from low-budget hotel design, for just like hotel rooms, the Recovery Lounge has to be cost-effective, durable and easy to clean. Particular attention is paid to the patients’ private sphere. Pristmangoode emphasize that their design is no more expensive than conventional hospital furniture, but can offer patients considerably more comfort. Last but not least, the Recovery Lounge with its good design is also intended to increase patients’ well-being and thus help speed their recovery.





Llewelyn Davies Yeang: Great Ormond Street Hospital for Children

The new Hospital for Children in London is on its way to becoming Britain's "greenest" hospital. The redesign, covering 30,000 square meters and for which the hospital is remaining open, encompasses two new buildings and an extensive renovation of the existing buildings. A 20-percent reduction in CO₂ emissions for the entire hospital is planned. An expansive glass façade will ensure natural ventilation and plenty of daylight, while inside linoleum and environmentally-friendly paint will be used. The greatest challenges for the architects were to combine functionality and sustainable design and create a less sterile atmosphere. Efficiency was also high up the list: In future, 20 percent more patients will be able to be treated.

NORD: Sundhedscenter Healthcare Center for Cancer Patients, Copenhagen

The challenge posed by the competition for the new Healthcare Center for Cancer Patients in Copenhagen could probably not have been any greater: The architects were asked to design a building in which patients could feel comfortable and maintain or rediscover their joie de vivre; a place of healing and learning. And that despite the fact that a hospital for cancer patients is usually associated with sterility, cutting-edge, anonymous technological procedures and a fear of death. Studies have repeatedly shown how crucial psychological aspects are for the healing process and the role architecture plays here. Thus NORD Architects from Copenhagen sought a "familial concept" for their design, which consists of small, interconnected buildings with large skylights and plenty of airy height, linked via an inner courtyard and which has nothing in common with a huge, threatening hospital complex. In addition to the oasis of calm in the courtyard, inside the center has a climbing wall, offering patients training in sports and diversion in a protected environment. Several kitchens are intended to offer patients suffering from a loss of appetite the chance to cook for themselves, either in a group or under guidance, and thus bring a little quotidianity into the artificial hospital environment.



HWKN:

Aging in Africa, Aby Lagoon, Ivory Coast

Inspired by a traditional African village, the New York-based architecture studio Hollwich-Kushner (HWKN) designed a retirement home for Catholic priests in Ivory Coast. It is designed to offer retired priests, who do not enjoy the familial support still so important in African societies, the opportunity to live out their lives in an institutionalized community. In two long rows, eleven residential and three care homes flank a wide central axis containing various public buildings: starting with the administration building through the library and event pavilion to the heart of the complex – the church.



Based on the outline of classical Christian churches, here the sculptural place of worship will become the central meeting place for the residents, as well as for the people from the local area. The idea is that the retired priests continue to take an active role in religious events. The complex's own hospital and adjacent football pitch are likewise open to the public. This is designed to maintain contact with the neighboring areas and promote integration into everyday life. The New York architects place particular importance on the reference to nature: Located on a peninsula on the Atlantic coast, the architecture of the residential development is completely integrated into the landscape. The one-story buildings along both sides of the central axis even appear to fuse with it.



The vegetation planted in the surrounding area is continued on the roofs, which themselves offer residents and visitors a unique view of the ocean and surroundings. The complex's north-south orientation supports the natural circulation of air and has a positive influence on residents' well-being. Materials are selected in light of both ecological and economic aspects. Thus HWKN is primarily using materials from the region such as wood and clay bricks. Plans are already underway to expand the senior-citizens' complex to include a school, in which the retired priests can teach local children.



Private matters: How do you want to live in old age?

They are specialists in wheelchair-accessible buildings, hospitals and social concepts such as cross-generational living. But how do they see their own residential future as a senior citizen? *pulse* polled the personal opinions of well-known architects.

Prof. Gesche Grabenhorst

ahrens grabenhorst architekten BDA, Hanover

“Later in life I imagine a communal living arrangement – with friends in one house. It should offer a place – a center – for communication, for communal cooking, eating, and living, but also enable each individual to withdraw to his or her own private space. Spatially, the concept must provide a solution for all manner of groups. Constellations change and require in their complexity architectural sequences that structure both proximity and distance.”



Eckhard Feddersen, feddersenarchitekten, Berlin

“Old age is becoming more diverse – ever more people are realizing, even in later years, their individual designs. They want to live in safety, and value comfort, quality and above all flexibility. Architecture can render a crucial contribution to self-determined living in old age. If we make construction based on universal design the standard and thus create living space for all, a separate sort of “senior-friendly” architecture will become superfluous. I hope that I can enjoy this new form of normality in my later years.”



Johannes Kister

kister scheithauer gross, Cologne

“When does old age begin? What characterizes old age? Are we already there? There is not a great deal I’d like to change. I need to have my own four walls. I envisage getting old together “at home”, always having enjoyable work to do.”



Werner Langecker

Langecker + Partner Architekten, Munich

“I really hope to grow old in my own four walls and advise everyone with similar ideas to start making preparations early enough. I see time and again how developers of detached houses do not think about the fact that they are getting older themselves and thus make a mistake that is very difficult to rectify later on. If there were no other option, I'd go into a care home that immediately gives you the feeling that elderly people too have a right to a pleasant living environment.”



Dieter Ben Kauffmann

Kauffmann Theilig & Partner, Ostfildern

“...firmly in line with Kurt Tucholsky's satirical ideal: 'Yes, that's what you want: a villa in the country with a large terrace, the Baltic in front, Friedrichstrasse behind, with lovely views, sophisticated country life, you can see the Zugspitze from the bathroom, but it's not far to the movies in the evening...’”

Berta Heyl

Grünenwald + Heyl, Karlsruhe

“When planning residential projects a high level of personal commitment is needed, for alongside the role of architect you almost inevitably slide into the role of group moderator too, who has to bring very different interests into agreement. Personally I can imagine living with likeminded people in an urban, cross-generational residential development – in any case, the numerous successful projects I have been fortunate enough to plan thus far certainly whet your appetite!”



Alfred Schelenz

Gatermann + Schossig, Cologne

“To my mind, cross-generational living and flat shares among silver-agers are good ways of organizing life in later years. The most important thing is being able to schedule your daily life as you see fit. Intelligent building operation systems will assume a crucial role in realizing this – down to help from home robots. These service platforms will promote a dignified life in old age, where the focus is on communication, activity and leisure time.”

More autonomy for the patient

C. F. Møller is among the leading Danish architecture studios. The experts have repeatedly demonstrated their feel for pleasant and transparent environments in their buildings for the healthcare sector. Partner Julian Weyer told *pulse* about the special Scandinavian approach to designing hospitals, homes and hospices.

By **Lasse Ole Hempel**

Aarhus is the second largest city in Denmark and as such has always stood in the shadow of Copenhagen as the capital city. Thus in retrospect, C. F. Møller's decision to relocate the headquarters of the studio, founded in 1924 in Copenhagen, to Aarhus seems all the more daring. The architect worked there from 1931 on a major project, namely building Aarhus University. It is an icon of Scandinavian Modernism, the original structure of which is still recognizable today, even after several modifications. Aarhus University has been keeping C. F. Møller Architects busy to this day with conversion and extension work. There are currently 300 staff at C. F. Møller Architects, which has been a partnership since the 1950s and now has offices in Oslo, Stockholm and London. Works by C. F. Møller have received several awards and also been exhibited at the Venice Biennial. At present the studio is planning a new mammoth project, again in Aarhus, namely the new Aarhus University Hospital – the largest new hospital in Danish history.

Mr. Weyer, when we think of Scandinavian architecture, we think of attributes like democratic, transparent,

manageable. To what extent does that apply to C. F. Møller's projects?

Of course, there is agreement among architects worldwide concerning these values. But interestingly the buildings look very different in the end. On entering, for instance, the new University Hospital in Oslo that we planned, visitors inevitably get the impression they are in Scandinavia.

A noticeable feature of the project is the axis running through the main building.

The axis runs through the space, combines a great deal and presents the public space with all its facilities. Of course, this concept is not "strictly Scandinavian" per se, but the way it is realized is. For example, the way light and landscape flow into the space, and the mighty wooden structures that call to mind the surrounding forest, as well as the other materials such as wooden planks and natural stone – even the base rock, dressed on site, serves as a café terrace. The most important thing however is that this space is not purely a walkway – it is also where staff meet at open work stations. This supports the ideas

Applying the character of a city to a hospital: At Oslo University Hospital not only do important functions converge at the central axis, but this axis also provides the key social zone within the complex.





Torben Eskerod

of democratic equality and direct participation: People approach each other “as equals” and with a typically Scandinavian approach avoid the traditional distance between patient and carer.

The different departments appear to be networked like the districts of a city.

The totality has the informality of a city character. Of course, it also has to do with the fact that we attach great importance to the patient’s autonomy and want to make the building a pleasant place for visitors, too. We also take this imagery further. Which becomes very interesting, especially when we consider, for instance, the University Hospital in Aarhus we are currently working on. A truly gargantuan project. C. F. Møller designed the original building in 1985 – on an area measuring 150,000 square meters. Now the complex is to be expanded once more. For a hospital building of around 400,000 square meters, the traditional way of thinking, which sees such a building as a house, is no longer sufficient. Rather, complexes like these must be conceived like a city. This enables us to approach this project, with its enormous scale, intuitively.

Because everyone can easily orientate themselves in a traditional city as we know it. We know how it is structured and how it functions. And even if we don’t know the city, we can recognize parts of it – elements like squares, boulevards, the cathedral. We deliberately integrate these elements into a hospital structure – in the end also to aid orientation.

Architects repeatedly emphasize their desire to avoid a too clinical atmosphere. How important is it to conceal technology today?

Individuals are no longer interested in seeing all the equipment. Most are interested in the interface. Patients must not see a hospital as a foreign body, but must feel at home. Naturally a hospital is a great machine and we have to create an extremely effective organism that works around the clock. Above all because running such hospitals is so incredibly complex and costly. Precisely in Scandinavia, HR costs are so high that staff should first and foremost take care of patients. Thus we are observing in our hospital projects that, for instance, more and more robot technology is being used. Jobs such as doing the

Typically Scandinavian; wooden elements on the façade of Oslo University Hospital reference the surrounding forest.

laundry can easily be performed by robots nowadays. So we are seeing a trend towards more automation, while at the same time the structure of hospitals should take a more human, true-to-life approach. Art is a key element in planning an holistic environment. For art, as something deliberately irrational, can help break up the institutional structures, which may be seen as too rigid. This mix is very important and can also promote the healing process.

You mentioned wanting to give the patient back a sense of autonomy.

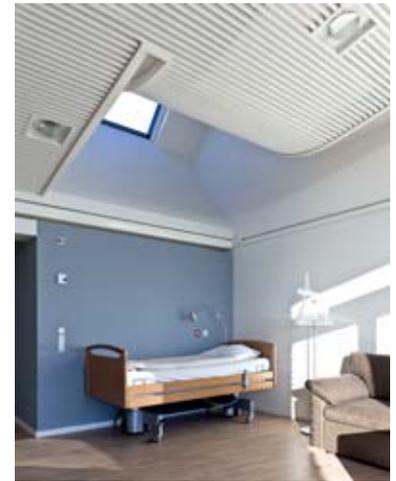
In our hospitals patients should never feel like they are just one cog in some huge machine. On the contrary, the patients themselves increasingly set the tone. Thus the technology serves to individualize. Indeed, that is what characterizes our relationship to technology today. We are no longer interested in what the telephone network looks like, but observe and control via our iPhone interface. The hospital is similar. The patient expects effective structures, but what he is far more interested in is the way in which he comes into contact with these structures. A key principle here is: "The more influence you can exercise yourself, the less powerless you feel and the easier it is to recover."

You have now planned Djursland Hospice on a peninsula northwest of Aarhus, for people who have no hope of being healed. Presumably even more sensitivity is required here.

The project stemmed from the landscape and the extraordinarily beautiful location of the building, overlooking the Bay of Aarhus. From the very start, the idea was for all patient rooms to afford similarly lovely views of the landscape. Which is why this building is half-moon shaped and nestled in the countryside. The layout has a simple zonal structure. There are private zones at the ends, housing the patient rooms. Linked to these is a semi-private zone containing various facilities for the staff and relatives. A public area and reception are located at the center of the building – the smallest section owing to its curvature. In this way, patients can decide for themselves if they want to spend time in the public area or would rather stay in the private section. Patients are certainly not forced to stay in the private or public area. It is entirely their choice.



Torben Eskerod, Adam Mark, Jørgen True



The new University Hospital in Malmö (top), completed in 2011, is among C. F. Møller's successfully realized major projects in the healthcare sector. Sensitive approach: At Djursland Hospice, which opened in 2007, the patients themselves decide between the public and private sphere. The structure's curved shape enables plenty of daylight to enter (bottom).



C. F. Møller Architects has been a successful partnership since the 1950s. Julian Weyer (left) was born in Germany. After completing his studies in architecture in Aarhus, he started working for C. F. Møller in 1995. He has been partner since 2007.



The older we get the more convenience and security we want, and the more willing we are to invest in modernizing our homes.

Developing solutions that cross generations

The percentage of seniors in the population continues to grow. By the year 2030, 35 percent of the population will be older than 60. But there are few similarities between today's seniors and those of past generations. Seniors today are physically active, they like to travel, and they are open to new technologies. And the "silver generation" wants to live at home as long as it can. Because familiar surroundings mean security and quality of life, and they make it easier to maintain social contacts. There are a variety of opportunities in every home to update it to meet the needs of seniors. One approach to this issue is found in the concept of universal design. Products and services are designed from the start to be operable by all. The aim is to develop integrative solutions such as a barrier-free environment, products that can be operated safely and easily, and technology that focuses on people. Busch-Jaeger offers a wide range of products that enable users to conveniently shape their surroundings. We offer a large selection of functional products with a timeless

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The German Society for Geriatric Technology (GGT) tests whether products and services provide convenience, quality and aesthetics that cross generations.

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What information did the thermal building simulation at the NCT in Heidelberg provide?

pulse asks a competition question in every new issue. The winners each receive a book.



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Preview pulse 03/2011:

Schools

Things are happening not only in the German school system. pulse 3/2011 presents projects that create a suitable environment for learning.



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