

HOSPITALS

医院建筑

于萍编 常文心译

辽宁科学技术出版社

图书在版编目 (CIP) 数据

医院建筑 / 于萍编 ; 常文心译. -- 沈阳 : 辽宁科学技术出版社, 2011. 10

ISBN 978-7-5381-7107-5

I. ①医… II. ①于… ②常… III. ①医院—建筑设计—英、汉 IV. ①TU246.1

中国版本图书馆CIP数据核字(2011)第170371号

出版发行: 辽宁科学技术出版社
(地址: 沈阳市和平区十一纬路29号 邮编: 110003)

印刷者: 利丰雅高印刷(深圳)有限公司

经销者: 各地新华书店

幅面尺寸: 245mm × 290mm

印 张: 36

插 页: 4

字 数: 80千字

印 数: 1~2000

出版时间: 2011年 10 月第 1 版

印刷时间: 2011年 10 月第 1 次印刷

责任编辑: 陈慈良

封面设计: 赵 聪

版式设计: 赵 聪

责任校对: 周 文

书 号: ISBN 978-7-5381-7107-5

定 价: 268.00元

联系电话: 024-23284360

邮购热线: 024-23284502

E-mail: lnkjc@126.com

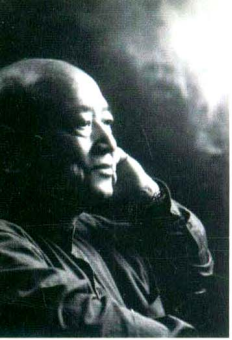
http://www.lnkj.com.cn

本书网址: www.lnkj.cn/uri.sh/7107

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医院建筑

于萍 编 常文心 译



My Design Experience

我的设计经验与体会

I have been devoting my life to medical architecture over 35 years.

This “special art” must be incorporated with “human life” to create works which combine human scale and functions. Medical architecture is an “organism”. As history accumulates, society changes and medical science develops, medical architecture is growing up continually and reflecting different era’s requirements. Working deeply in this area, you have to be extremely observant and reflective, as well as maintain a selfless and passionate soul.

I like to get involved with sky, earth and human beings; therefore, astronomy, Greek mythology and mountain-climbing have always been my inspirations. They broaden my view, accumulate my energy of self-breaking and enhance my architectural judgment and ability.

In the process of working on medical architecture, “communication” plays an important role, especially when dealing with hospital staff with selfish departmentalism. Once, an obstetrician required the delivery room to be large and separated by curtains, which would be convenient for delivery. However, my experience and

医疗建筑是我一生的志业，至今已走过35个寒暑。

这门“特别的艺术”，必须深刻结合“人间生活”，才能创造出兼具人性和功能的作品。医疗建筑是一“有机体”，伴随着历史累积、社会变迁与医疗科技的进步，不断地成长，并反馈出不同的时代需求，深入这个领域，需要极端冷静的观察、思考和一颗无私、激情的灵魂。

我喜欢感受天、地、人的真实，因此天文、希腊神话、登山一直是我的灵感泉源，它使我的视野更加辽阔，自我突破的能量愈加积累，提升了建筑师的判断力和专业能力。

医疗建筑的过程“沟通”非常重要，特别当对象是部门本位主义浓厚的医院人员。曾有一次，妇产科医师要求产房设计要大且宽敞，用帘子分隔，方便接生。经验与判断力告诉我，纵是站在使用者与设计者的对话天秤上，这是绝对不可妥协的！因为产妇在承受巨大的生产痛苦时，耳边还充塞其他产妇的呻吟哀号，其内心的恐惧感可想而知。

医疗建筑的演变与大环境密切相关。多年来，我从事医疗建筑设计，有自我要求的理念基础：首先要有“弹性”，空间须默认弹性以符合病患数目的增长，土地资源有限，必须妥善合理之运用。其次，是“竞争优势”，医疗工艺、动线合理、相关部门专科资源共享等，病人才不致如入迷宫，加之绿色节能等规划，医院本身才有竞争优势。第三是“人性化”，并与创新作结合，从实务应用出发思考，让病人在医院时空中，感到亲切、放松与信任，例如公共区域的人文空间，关照精神层面的需求，增加人性化服务。第四是“重视防范院内感染”，智能配置空间，利用正负压差控制气流，清浊空气分流。唯有掌握人、阳光、空气、水与环境疗愈、物品动线、分明清污才能收最佳感染防制之效。

在所有建筑设计类型中，“专业化”这项特点，点出了医疗建筑与其他建筑之最大差异，我从事医疗建筑设计，深觉命运蕴涵其中，意义非凡，努力脚步，贯彻始终。

judgment told me that it is non-negotiable, on matter from the point of user or designer. When a parturient is experiencing enormous labour pain, you can imagine she would be more panic hearing other parturients' crying.

The evolvement of medical architecture is closely connected with environment. For years of my practice in medical architecture design, I have my demanding concept. First, space must be equipped with flexibility to match the increasing number of patients, as the land resource is limited and we have to use it properly. Second, the hospital has to contain "competitive edge", such as medical technology, reasonable circulation and professional resource sharing, in order to guide the patients easily. In addition of green features and energy strategy, the hospital will be competitive. Third, the hospital need to be humane. Combining human scales and innovations and starting from practical application, the hospital will make patients feel intimacy, relaxation and confidence. For example, the hospital should take care of cultural space of the public area, pay attention to patients' spiritual needs and add humanised services. Forth, the hospital must avoid internal infection. The design should configure spaces intelligently and use pressure difference to control air current and to separate the clean and dirty air. Only when human,

sunlight, air, water, environment, materials circulation and separation are all mastered in hand, the best infection avoidance can be achieved.

In all architecture types, "professional" is the feature which differentiates medical architecture and other types of architecture. In my experience of working on medical architecture, I have found my fortune and its outstanding meanings. My studious steps never stop.

Hsu Chang-Ch
许常吉 建筑师

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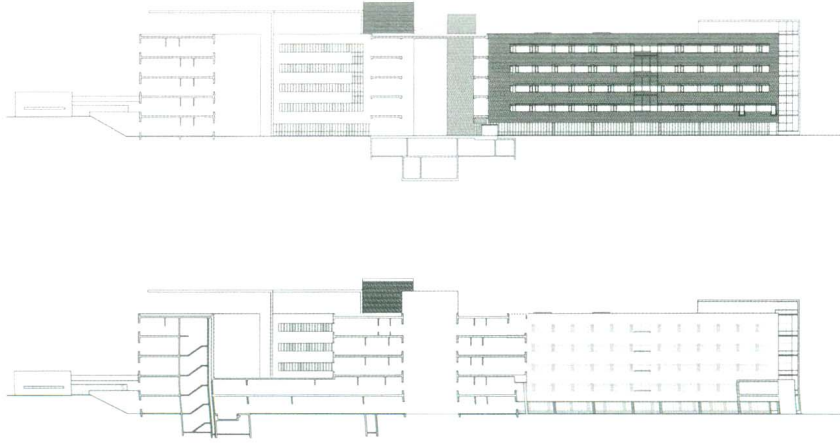
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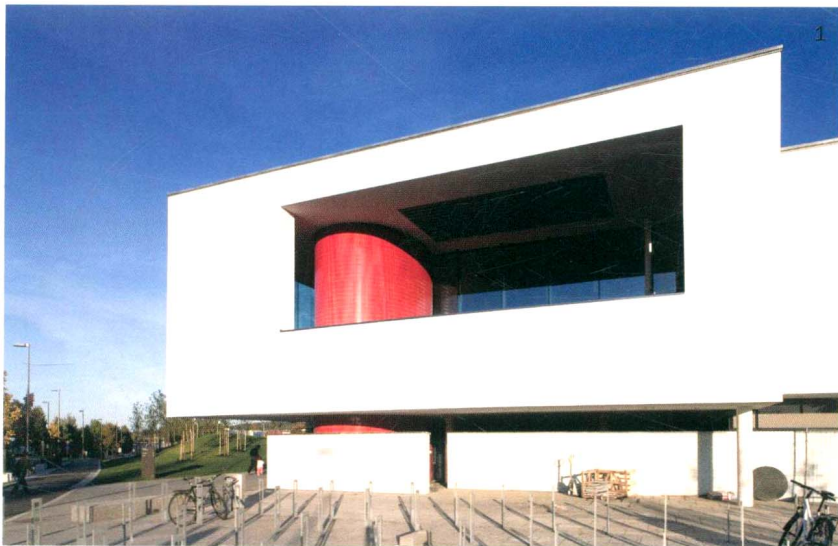
阿克什胡斯大学医院 Akershus University Hospital

Location: Oslo, Norway **Completion date:** 2008 **Designer:** C. F. Møller Architects **Photographer:** Torben Eskerød **Area:** 137,000 m²

项目地点：挪威，奥斯陆 完成时间：2008年 设计师：C.F. 穆勒建筑事务所 摄影师：托本·艾斯克罗德 面积：137,000平方米



1. The geometrical structure looks clean and lively
2. Main entrance of the hospital
3. The grey inpatient building
4. The façade uses structural glass



The new university hospital is not a traditional institutional construction; it is a friendly, informal place with open, well-structured surroundings which present a welcoming aspect to patients and their families. Akershus University Hospital has been designed to emphasise security and clarity in experientially rich surroundings, where everyday functions and well-known materials are integrated into the hospital's structure.

Although the individual parts of the development each have their own material expression and the material expression of the development varies, nonetheless it is united into a whole by means of a general architectural theme centred on panels and transparency. In this way, a unity is created between the individual parts of the complex, which thereby receive a subtle effect of transparency and depth.

A glass-roofed main thoroughfare, in which wood is the dominating material, links the various buildings and departments. The "glass street" begins in the welcoming foyer of the arrivals area, where the main reception desk receives visitors, and concludes in the foyer and separate arrivals area of the children's department.

In the glass street, the central element in the development, the various materials are united in an overall composition, in which the large coloured panels designed by the Icelandic artist Birgir Andrésson form a natural element and provide a "palette" for the colour scheme of the hospital.

The glass street has a town-like structure, with public and semi-public zones defined as squares and open spaces, offering the everyday functions of a town: church, pharmacy, hairdresser, florist, café and kiosk, as well as traffic nodes and other services for the benefit of patients, relatives and staff. In natural continuation of these functions, a number of other services, such as health information, polyclinics and out-patient surgeries, are located near the street level of the thoroughfare.

The hospital's structure helps to ensure that the patient remains the natural focus in the physical design, despite the strict and demanding logistical requirements which underlie all hospital constructions. Just as the overall complex is made up of clear and comprehensible units, so the individual wards are built up from smaller elements. The wards are centred around four so-called courtyards which ensure a well-defined daily life for the patients, with a manageable level of social contact, assisted by a clear staff interface.

The wards of the children's department are equipped with windows which give the children and young people individual views of both the sky and the surrounding greenery from their beds. The well-equipped facilities for parents secure excellent contact between the children and their families.

新建的大学医院并不是一座传统意义上的医疗设施，它亲切友好的环境和开放合理的周边让患者和家属们感受尽管建筑的各部分都采用了不同的材料，各具特色，但是它们通过综合的建筑主题——面板和透明度——形成了统一的主体。这样一来，建筑的各个部分都拥有了精妙的透明度和深度效果。

以木材为主要材料的玻璃屋顶大道连接了各个楼和部门。“玻璃街”起于大厅的到达区，通往大厅内部和儿科的各个到达区。

在玻璃街——项目的核心元素里，各种材料得到了统一，巨大的彩色玻璃板（由冰岛艺术家波尔吉尔·安德森设计）显得十分自然，形成了医院色彩主题的调色板。

玻璃街有着城镇的结构，公共和半公共区域通过广场和开放空间来划分，也提供了城镇的基本设施：教堂、









3

药房、理发店、花店、咖啡厅和电话亭，还拥有一些交通节点和病患、家属、员工服务设施。此外，一系列的其他服务设施，如健康咨询、综合门诊和门诊手术等服务都靠近街面。

医院的结构保证了患者与建筑的物理设计之间的联系，也考虑了医院建筑要求严格的后勤需求。就像整体建筑由清晰明确的部分组成一样，个人病房也由小型元素组成。病房围绕着四个庭院展开，为患者提供优质的日常服务和正常的社交环境。

儿科病房的窗户让儿童和年轻人能在病床上看到天空和周边绿地的风景。为家长所准备的设施保证了儿童和家庭的良好联系。

Award:

Prize in Restricted Architectural Competition 2000

Building Better Healthcare Award 2009 Best International Design

获奖情况

2000年内部建筑竞赛奖

2009年“打造更好的医疗设施”奖，国际最佳奖



1. The side view of the hospital
2. The outer space is a green area for the patients
3. A night view of the building

1. 医院侧面

2. 住院部外围为患者提供了大块绿地

3. 建筑夜景

- | | | |
|--------------------------------------|----------------------------------|---|
| 1. Main entrance and reception | 8. Auditorium | 15. Rehabilitation children |
| 2. Children's entrance and reception | 9. Chapel | 16. Sampling children |
| 3. Glass covered mall | 10. Day surgery | 17. Polyclinic children |
| 4. Café/kiosk | 11. Anaesthesia/recovery | 18. Out-patient departments polyclinics |
| 5. Pharmacy | 12. Diagnostic imaging | 19. Technical towers |
| 6. Blood sampling | 13. Pain clinic | |
| 7. Church | 14. Physiotherapy/rehabilitation | |

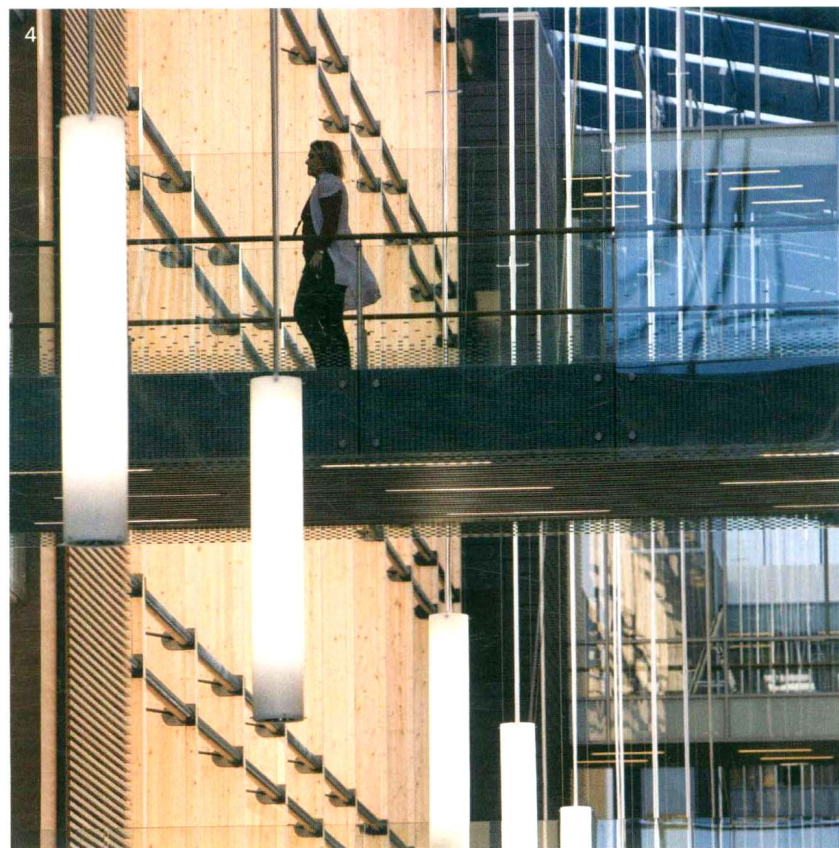
- | | | | |
|-------------|-----------|------------|------------|
| 1. 主入口和接待处 | 6. 取血处 | 11. 麻醉/恢复室 | 16. 儿科取血处 |
| 2. 儿科入口和接待处 | 7. 教堂 | 12. 影像诊断室 | 17. 儿科综合门诊 |
| 3. 玻璃罩林荫路 | 8. 礼堂 | 13. 疼痛门诊 | 18. 综合门诊部 |
| 4. 咖啡亭/报亭 | 9. 礼拜堂 | 14. 理疗/康复室 | 19. 技术室 |
| 5. 药房 | 10. 日间手术室 | 15. 儿科康复室 | |





1. The interior applied numerous wood structures
2. The glass roof connects different departments inside the building
3. The selection of wood creates a warm and natural sense
4. The interior passage

1. 医院内部采用大量木制结构
2. 玻璃屋顶连接了大楼内部各个部门
3. 木材的使用带来了自然亲切感
4. 内部通道





1



2

vinola heimsins s



3

1. Elevator lobby, with robotic automated AGV unit transporting supplies
2. The interior public sitting area
3. The underground supply system includes automated AGV units which handle transports and logistics within the hospital
4. Detail from the underground supplies facility

1. 电梯大堂，自动无人搬运车负责运输供给品
2. 建筑内部的公共休息区
3. 地下供应系统包括自动无人搬运车，负责医院内部的运输和物流
4. 地下供应设施细部图



4

克莱蒙费朗医院 Clermont-Ferrand Hospital

Location: Clermont-Ferrand, France **Completion date:** 2009 **Designer:** Groupe-6 **Photographer:** Luc Boegly **Area:** 70,000 m²

项目地点：法国，克莱蒙费朗 完成时间：2009年 设计师：6队设计公司 摄影师：卢克·博尔格利 面积：70,000平方米



With a capacity of 565 beds over 70,000 square metres, more than a healthcare project the Clermont-Ferrand Hospital (CHUE) is an urban project which offers opportunities for the extension of the city beyond today's frontiers. Replacing the old "Hotel-Dieu" erected in the 18th century in the town centre, the new hospital is built on the former site of the Michelin factory. Located at the boundaries of the city, in a quarter undergoing radical transformation, the CHUE acts as a proper "urban generator", and becomes the anchor of a new town designed to become a future healthcare centre. With its monumental entry, like a metallic sail floating over the square, the building acts as a landmark and meeting point for the new district. Genuine technical prowess, it is made of five pillars supporting the 1,500 square metres of the metallic cover. With its planted nave, it extends the existing urban frame while defining new axes of circulation. Everything in the CHUE borrows from the urban typology and vocabulary: places, squares, streets, alleyways... the hospital is already in the city. The internal green passage of 250 metres long is punctuated by reading and resting zones, treated like a semi-public, pedestrian and commercial space; in other words: an urban street.

Its lower ground plus two wards levels, coupled with its fragmented volumetry, complete this primary "macro" structure and offer more intimist and domestic spaces. The scales management and the spaces hierarchy show a functional organisation based on a pole system and a stratification of activities.

With a lifetime of 40 years, healthcare facilities must be flexible and competitive. Here the architects have deployed a real ambition, with an efficient and fast construction site, a nave working like a ventilating buffer space, and a structure allowing potentially a 20% extension.

克莱蒙费朗医院共有565个床位，总面积7万多平方米，不仅是一家医疗机构，更是一个城市扩建工程的重要城市规划项目。

新医院替代了市中心建于18世纪的“天主酒店”，建在米其林工厂的原址上。医院所在的城市边缘正经历着巨大的变化，作为一个合适的“城市生成器”，医院成为了新城的标志性建筑。宏伟的入口仿佛广场上的一面金属船帆，医院是新区的地标和集会场所。在新技术的支持下，5根柱子支撑着1,500平方米的金属外壳。绿化中庭延伸了原有的城市框架，界定了新的流通路径中轴。医院的设计借鉴了城市规划，包括广场、街道、小巷等，整个医院就是一座城市。250米长的室内绿色通道里点缀着阅读和休息区，形成了半公共的步行商业空间，或者说，一条城市街道。

一楼和上面的两层病房与独立的体量共同组成了医院的基本结构，提供了私密而舒适的空间。规模经营和空间谱系体现了以极点系统和活动层理为基础的功能设置。

医疗设施的使用年限为40年，必须灵活而耐用。建筑师运用高效率而快速的工程方法，通过中庭提供了一个通风缓冲区，整体可进行20%的扩建。

1. A side view
2. A metallic sail sits outside the monumental entry
3. The metallic roof is supported by five pillars

1. 医院侧立面
2. 入口外侧的金属船帆气势恢宏
3. 五根柱子支撑着金属顶棚

