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世界建筑大师名作图析

PRECEDENTS IN ARCHITECTURE

ANALYTIC DIAGRAMS, FORMATIVE IDEAS, AND PARTIS

(原著第四版)
FOURTH EDITION

中国建筑工业出版社

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本书专注于一种思考建筑的方法,强调不同大师作品中的共同属性,探寻建筑形态生成的原型理论。本书以特有的图解方式,重新解析了勒·柯布西耶、密斯、阿尔托、迈耶等38余位世界著名建筑大师的118余个著名建筑实例。本书通过对这些建筑总平面图以及平、立、剖面图的分析与对比,发掘出设计构思中的共性,揭示建筑的形体构思是如何超越文化和时代界限的。

本书所选的建筑师,既包括历史上重要的建筑师,也包括当代极富原创性、设计独到、设计兴趣和建筑品质卓尔不凡的建筑师。本书所选建筑实例均具有重要的历史意义,代表了一个时代、一类功能或一种风格;设计富有创意,功力深厚,品位独到。

本书是研究设计范例的经典之作,是解剖建筑方案的必备工具,提供了理解建筑的一种途径、一种对建筑学进行分析思考的方法,有助于建立一种形式语汇,使读者在对建筑历史演进过程的分析中,找到有价值的指引,可以帮助建筑系的学生们和建筑师们去理解设计大师的作品,同时创造自己的设计。

第四版新增了7位前卫建筑大师的分析:史蒂芬·比尔、戴维·奇普菲尔德、伊东丰雄、汤姆·库迪格、布赖恩·迈克-里昂、托马斯·菲弗、阿尔瓦罗·西扎;对原第三版的建筑大师(如矶崎新、黑川纪章、麦金,米德和怀特、皮亚诺和罗杰斯、科尔托纳、SOM等)的分析进行了增补,以使本书更加与时俱进。

本书内容丰富,资料翔实,剪系统性强,是讲解世界建筑设计的经典著作,是建筑师及建筑学专业学生具有极好参考借鉴价值的教学参考书。

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迈克尔·波斯
卢健松 包志禹 译

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To Judy and Kathy

献给 朱迪和凯西

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前言

第四版前言

本书的第一、二、三版评论仍具有重要意义，谨向读者推荐。分析方法及概念形成方法，始终是解析和创作建筑作品的语汇表。这种方法超越时间及起源，联结历代建筑作品。因此，它将是超越建筑风格、文化、形式的一次契机。它使我们意识到，建筑不仅是一张美丽的照片或是一组精美的图集那么简单。

与先前的版本相比，我们增加了本书的“分析”部分，以期通过对这些建筑的分析，呈现这些建筑的真实信息和图样。新增信息包括了7位建筑大师，每人2件作品。通过先前已经应用的技术和形式，这些新的作品将无缝穿插在本书的“分析”部分。书中的分析图剔除了建筑的平面图、立面图以及剖面图中的某些信息，既是我们的解析，也是一种抽象。这种抽象的目的在于，突显那些被研究过的特定主题。而通过把工程信息放在与分析图相邻的前一页，是希望能有助于读者将分析与工程信息关联起来。将所有的分析图汇聚在一页上的做法，则有助于为读者提供一个集中理解该建筑信息的机会。当然，读者也可以通过逐页的阅读，比较各张分析图，发现不同的建筑师如何解决特定问题。除此，读者还可以涉猎书中构思形成部分，

阅读不同建筑的图样集锦，研究不同建筑师如何处理同一设计原型。

我们意识到，任何建筑师所创造出的建筑形式，都是社会、技术、经济、文化、法律以及政治因素的综合考虑，其中，最重要的是方案的标新立异以及业主的利益与需求。众所周知，我们在这版中增加的建筑师都在某个领域举足轻重，比如布赖恩·迈克-里昂（Brian MacKay-Lyons）。他的作品汲取了当地建造技艺的优点，同时回应了建造场地特殊的地理与气候特征。甚至有人称他为“场所诗人”。然而，场所的重要性并未改变他在其他作品形式中体现出的明显的旨趣与特征，那些自始至终都会呈现在他作品中的几何形态、比例关系、空间运用以及平面与剖面关系。

汤姆·库迪格（Tom Kundig）多次公开表示，他灵感的来源总是“大景观”，很明显，他的建筑作品中，景观处理无处不在。他还撰文坦陈，早年与雕塑家的互动对他影响至深，至今犹存。这些影响表现在建筑师对建筑材料的精巧使用上；表现在他在作品中大量使用被称为“小宇宙”的灵巧装置；表现在他可以在合适的时间、合适的地点使用合适的工匠。然而，这些也显示了，在其大尺度景观营造与细部语言迷恋之间，他

仍然执迷于某些建筑原型的思想。

如果称布赖恩·迈克-里昂 (Brian Mackay-Lyons) 为场所诗人, 那么托马斯·菲弗 (Thomas Phifer) 一定就是场馆诗人。采用比 20 世纪现代主义更为通俗的现代建筑语言, 菲弗 (Phifer) 创造出精确的极简主义雕塑, 这些作品有时是实体的, 但通常是透明的。这些场馆均为形态几何, 质感细腻, 视线通透, 可通过一系列格栅和面板改变光线品质, 同时保持自身的形态。这些场馆的存在转瞬即逝, 通常位于如建筑一般可控的景观之中, 在不断改变气候条件的过程中, 实现内外空间的持续转换。

在史蒂芬·比尔 (Stephane Beel) 的两所住宅中, 显然, 他试图通过入口来处理该住宅与基地的关系。梅森住宅 (Villa Maesen) 是一栋线性建筑, 接近 200 英尺长, 位于一座墙面连续突起大宅的花园之中。事实上, 梅森住宅成为了与既有的长墙平行, 与现有房屋等宽的, 一座可居住的墙壁。鉴于该住宅与墙面基本等高, 因此需要穿过它的消极空间方能进入住宅。P 住宅 (Villa P) 同样是线性设计方案, 但在这个案例中线条被折叠成四条边而成为一个院子。入口通过折线上的缝隙, 经由一座小桥到达庭院对面的入口。虽然该住宅的形式看起来像是位于没有高差的基地上, 但穿越的小桥揭示了它实际位于一个坡地上。比尔因此称这个院子为“没有楼板的中庭”。

从 2009 年 10 月到 2010 年 1 月末, 戴维·奇普菲尔德 (David Chipperfield) 将他的作品集中在伦敦设计博物馆展出, 名为“形式思想”, 意在区分“形状”与“形式”。在他的理解里, “形

状”是有机的, 无非是结果的呈现。然而“形式”意味着可以被构建的规律。因此, 毋庸置疑, 我们设计的是形式。而奇普菲尔德本人是一位保守的“形式生成者”。他所创造出的建筑, 既不屑于展现建筑师的聪明, 也不为表达而表达。他静谧的建筑作品非常特别。

本书第四版之所以收录这些建筑作品, 是因为我们相信它们足够有力, 能让我们对议题的分析更加深入。无论建筑如何复杂, 无论建筑师关注多少问题, 抑或他们的动机与兴趣如何, 建筑师们所创造出的, 总是可以被分析的形式。综上所述, 这些建筑形式将会比建筑师的兴趣、时尚与思考更加源远流长。我们清楚, 建筑师并未意识到我们所分析的内容, 但这些分析图能如我们所分析的那样, 展示出建筑的形式法则。因此, 我们可以用对所建成之“形式”予以图解, 尽管我们明白这不一定是它被建造的原因。通过分析, 我们可以创造出与建筑相关的故事, 当然并不是所有的故事都存在。

如第三版的前言所述, 《世界建筑大师名作图析》(Precedents in Architecture) 一书在 1985 年由范·诺斯特兰德·赖因霍尔德 (Van Nostrand Reinhold) 公司首度出版, 随后由约翰·威利出版公司接手。该书至少有 4 种语言的译版, 在 2006 年, 中国建筑工业出版社将其第三版翻译为中文出版。本书的成功与长久屹立, 可见读者对本书所包含信息的需求, 同时也强化了本书的初衷, 探索设计思想的需求必将超越时间, 也将超越建筑形式生成所依托的场所。

除了之前版本的前言所表述的感谢外, 我们同样希望再次

感谢所有和此版书有关的人。我们非常感激布赖恩·迈克－里昂以及托马斯·菲弗慷慨地提供其两栋住宅尚未出版的宝贵信息，允许我们将其收录在本版之中。在布赖恩·迈克－里昂的工作室里，丽萨·莫里森（Lisa Morrison）和沙瓦·诺斯特卡斯卡（Sawa Rostkowska）给予了我们特别的帮助。在菲弗的办公室里，史蒂芬·瓦拉迪（Stephen Varady）同样对我们提供了帮助。

本书的出版当然离不开约翰·威利出版公司的玛格丽特·卡敏斯（Margaret Cummins）的支持。与第三版书一样，她和我们接洽第四版书的工作。如前所述，她的说服、建议和鼓励对此版书的发展有着关键的作用。我们由衷地感谢她对本书的出版以及我们的权益所付出的关怀。我们同样感谢约翰·威利出版公司其他的编辑、美工和制作组对我们的帮助。我们不可能无一遗漏地感谢所有对本书有所贡献或者鼓励我们继续进行案例分析的个人。就像多年前刚开始时，美国建筑学会荣誉会员乔治·E·哈特曼（George E. Hartman, Jr., FAIA Emeritus）那样。

同之前的版本一样，本书内所有页面均取自原图。我们以手工制图方式在描图纸上绘制分析图，因此我们将对其负责。与第三版相同，杰森·米勒（Jason Miller）将我们的草图和分析图精确地转变为本版中的 28 个新页面。在此，我们将特别感谢他在制图时的精准、奉献、勤勉、耐心和技巧，同时也感谢他与我们相处时的幽默。

最后，多年以来，我们的学生和其他学校的学生，都以本

书所提供的经典建筑作品为研习设计的重要工具。他们的提问和发现，不断地挑战我们，也使得日常教学充满乐趣。

第三版前言

我们建议读者阅读本书第一版和第二版的前言，其中大部分内容对我们，以及就我们对本书的感觉而言，依然中肯。本书提供的理解建筑学的方法仍然有用，第三版让我们有机会增加 8 位建筑师每人两件作品的实例分析，来充实“分析”部分。

与前两版一样，我们继续挑出一系列的图解来剖析建筑原型的构思，意在挖掘设计构思的共性以供比较。当然我们也意识到，处理这些问题时，他们也许不会认同这些图解。所以，这些图解是我们自己的解释，其中一些比别人的解释更加详尽。显然，这些图解是从我们所关注并限定的主题中提取出来的。就一个特定的建筑师或建筑而言，单张的图解可能更加清晰或更富有启迪，它也许暗示了这个建筑师当时的关注点。通过对建筑某些同类问题的探讨，也许能看见建筑师与建筑之间不断互动的微妙关系。我们也知道建筑有多样的表达——社会的、技术的、经济的、文化的、法律的以及政治的，其一或是全部，就如同建筑师或业主的个人喜好或一时冲动那样，会决定建筑的最终形式。

第三版增收的建筑师中，例如西古德·莱韦伦茨，我们知道他并不著述也不教学。幸好近年里，有几家出版社整理出版了他的生平和作品。我们发现有意思的是，他的早期作品是用一种精致的，却是原创的、古典的语言（例如复兴小教堂）；

后期作品，例如本书中位于瑞典克利潘的圣彼得教堂，拒绝了这种语言。然而，正如分析图解所揭示的那样，早期作品和晚期作品之间却又有几分相似。他的作品证明的是一种有节制的和收敛的想象力，这种想象力带来了并不拘谨的神秘的建筑。

斯蒂文·霍尔似乎从生物学和地质学借用了一些概念，创造出雕塑般的流动空间。他的建筑面向文脉，而他显然对在建筑室内引入自然光和控制自然光感兴趣。如何用草图和水彩来把握他对建筑的感觉，非常重要，所述甚详，然而他早期对于几何关系的兴趣依然体现在他最近的作品里。

这一版收录的拉斐尔·莫内奥作品，显示出他对场地的充分利用，其结果是紧凑的建筑与基本占满的场地。通过这种紧凑，莫内奥在作出自治的和生动的内部空间的同时，回应了场地文脉。另一方面，赫尔佐格和皮埃尔·德梅隆把建筑的外表面，即把表皮置于作品的优先地位。也许他们想要创造一种视觉的和有质感的表面，以此产生建成形式中已失去的感觉。

抛开各自的兴趣点和切入点，这些建筑师的共同思路是，建造出建筑学范畴内物质和空间所构成的形式。建筑不是没有形式的。最终的建成形式也许比时下关注的热点和思考更加持久。本书剖析的话题也许不在这些思考之列。我们的图解提供了解建筑的一种途径，其中的一些实例也许有助于建立一种形式语汇。书中解析的实例也许是把一种思路整理或组织起来的手段，也许是产生一款设计的途径。在任何一个实例中，我们可以图解已经存在的形式，但不能解析它们何以存在。

第三版的工作和前两版的形式一样。新增的版面按照字母

顺序融入在“分析”部分。这个部分现在有 31 位建筑师。他们一起代表了历史上的重要建筑师，以及近年来创作出有意义的建筑作品的建筑师。他们的人选不仅是因为作品的质量和实力，而且因为通过比较，他们对得起建筑探索的机会和他们的构思。

20 世纪 70 年代，我们开始探索分析建筑的名作，第一次发表在北卡罗来纳州立大学设计学校（现学院）的学生出版物上。1987 年本书面世，书名为《名作分析》（Analysis of Precedent）。1985 年，Van Nostrand Reinhold 出版了本书的第一版，1996 年出版了第二版，分别重印多次，并被译成西班牙语和日文。我们还知道它们竟被出人意料地译成了中文和朝鲜文。第二版获得了美国建筑师学会的国际建筑学书籍奖。该奖的评审委员，在世界各地出版的书籍基础上，评价道，“本书提供了一种建筑学的分析语汇，有助于建筑师理解他人的作品并产生原创理念。无论是初学者还是职业建筑师，该书都能充实读者的设计语汇。”

本书的成功和持久生命力表明了有一种对建筑学知识的需求。当我们开始着手收集第三版的素材之际，我们敏锐地意识到这项研究的最初前提是设计理念的共性和意义超越时空。随着工作的进展，这些假设得到了支持。建筑构思是建筑学的基础，扎根在社会的、技术的、经济的、文化的、法律的以及政治的种种之上。

除了第一版和第二版序言中提到的所有应当致谢的人以外，我们希望感谢与第三版直接相关的人；当然，向所有对本

书产生影响或作出贡献的人一一致谢是殊为困难的。我们还要感谢那些他们自己也不一定知道是否影响过我们的人们，但其中有几位值得特别提及。约翰威立出版公司的玛格丽特·卡敏斯，她和我们进行了第三版的接洽，并从约翰威立公司为我们的工作争取到了赞助；她的说服、建议和鼓励极其关键。威立出版公司的其他编辑、美编和制作团队也让我们受益。彼得·Q·博林、詹姆士·L·内格尔以及维克托·赖格纳则以鼓励和推荐的方式支持我们。我们也要感谢设计学院全体员工的真诚援助。

本书所有的图从原作而来。同时，我们对这些图的内容负责，詹森·米勒以其勤奋、耐心和杰出技巧诠释了我们的草图，并作出了新增的 32 页内容，特此致谢。

最后，和以前一样，我们要向我们的学生致谢。他们充实、挑战，且不断地质疑，同时证明了分析过程作为设计的一种工具是有价值的。他们让每天都妙不可言。

第二版前言

初版的成功表明了对有关建筑学的概念生成和分析方法的需求。我们初版以后的十年里的经验说明，这种素材，作为教授建筑学的一种工具颇为实用。它提供了一种分析语汇，它有助于建筑师和建筑学子理解别人的作品，并创造自己的设计。这种方法至今仍然有用，看来似乎无需修改第一版的内容。然而，再版还是给了我们“分析”部分增加 7 位建筑师的作品，

进一步丰富本书内涵的机会。起初，这些作品的选定，是为了与先前 16 位建筑师的内容争鸣。增选的案例，一些具有重要的历史价值；一些是文献中鲜见的；还有一些是因为第一版发行后建筑师及其作品的声名鹊起。所有选定的作品兼具力度、品质以及内涵。本书的目的则旨在进一步展示其超越时间和文化的设计构思。本书仍按照原有的版式，7 位新建筑师，每人选定 2—4 个建筑实例，记述工程信息，展开构思分析。

本书或许对特定的建筑师或作品分析详尽，但我们的主旨却并非要殚精竭虑地（利用照片、笔记、文案等）研究单栋建筑或单个建筑师。事实上，我们意图通过比较来深入探索设计构思中的共同之处。为了达此目的，我们仍运用初版的图解方法。尽管有些建筑师或建筑作家也曾运用图解方式解释或介绍过本书中的建筑，但本书中的图解方法是我们的原创。

除了在初版序言中提到的所有应当感谢的人以外，以下各位都为本书再版给予帮助。

格雷姆美术高级研修基金会又一次支持了我们的工作，对此我们深表感谢。VNR 出版公司为实现再版此书提供了赞助金。这两项资金赞助了我们的研究，且包括插图的制作。

虽然难以向所有对我们的计划作出贡献或产生影响的人一一致谢，但这几位应予特别介绍。首先，感谢温迪·洛克纳，是她说服我们再版，她的支持和鼓励尤为关键。VNR 出版公司的编辑人员给予了我们积极与可贵的帮助。詹姆斯·L·内格尔、维克多·赖格纳和马克·西蒙则以鼓励、建议和推荐作品等方式支持我们的工作。彼得·博林和卡罗尔·鲁舍慷慨地

贡献了其中一些建筑师作品的珍贵资料。设计学院的工作人员自愿给予的帮助，也在此一并致谢。

还应特别推介的是玛拉·默多克，她独自一人，技能非凡，饱含热情与耐心，绘制了所有的新插图。

最后，还要向我们的所有学生表示感谢，是他们使我们看到研究范例是学习设计的极有价值的手段；也是他们，不断地挑战与激励我们。

v 第一版前言

本书研究建筑学。

其特色在于，它专注于一种思考建筑的方法，强调其本质上的共同属性，而非其差异之处。本书关注那绵延不绝的传统，它们是蕴于当下的过往。但这种关注并非全然或部分地对其照搬，而是希望通过自觉领悟彰显不同风格和主题的建筑案例，探寻建筑形态生成的原型理论。

建筑学研究所涉甚广，但本书仅关注建筑形态问题。多言无益，我们将不涉足建筑学中的社会、政治、经济或技术领域。设计构思主要囿于建筑学的形态与空间领域，它也将成为本书研讨的重点。

显然，合理的建筑构思，并不能作为设计手段，导出优秀的设计作品。可以想见，很多让人大跌眼镜的建筑也是精心构思的产物。在设计中，精于形式原型的应用，并不会削弱建筑自身以及其他问题的重要性。无论怎样，那些当下以及过往伟

大建筑的共通之处，正是理解建筑基本法则，那些可被认知的形式法则的明证。

本书的分析和阐述都将关乎建筑形式，因而未必与建筑师的初衷以及他人的阐释相符。分析也将局限于可以图解的那些特质，未必面面俱到。

本研究有助于促进对建筑历史的理解；审视建筑设计中超越时间的基本相似点；识别出漫漫时光中设计问题的普遍解决之道；使分析成为设计的手段。发展一套以案例分析来研讨建筑构思的方法至关重要。与那种只关注名字和日期的研究方法相比，这种调研方法要付出更为艰辛的劳动才会有所收获。这种努力所获得的回报，是一份历经时间洗礼与验证的设计语汇。我们深信，建筑师将从其形态构思、概念组织以及建筑组成局部的综合理解中获益匪浅。

本书内容丰富，共包含 64 个实例的图解资料，案例由不同的建筑师创作，各个案例均配有详细分析，是一本设计形态生成与构思的作品集，不同建筑形象的汇编，技术分析的参考书。其中相当多的资讯，仅在本书中可得。

衷心感谢格雷姆美术高级研修基金会对本研究的支持。

本书的任何成就都是许多人和思想不期而遇所形成的火花，但其间有一位的贡献特别突出。数年之前，和小乔治·E·哈特曼的一系列长谈，使我们对建筑及其历史的构思与观念方得以逐渐成形。自那以后，他还不断地、热情地给予我们支持和鼓励。除此，詹姆斯·L·内格尔、路德维希·格拉泽、威廉·N·摩根和已故的威廉·考迪尔等人都慷慨地予以帮助，使我们获得

格雷姆基金会的资助。罗杰·坎农、罗伯特·休曼和戴比·布法林在查找资料和信息方面提供了可贵的帮助。此外，我们还要感谢建筑学院的克劳德·E·麦金尼主任、威妮弗雷德·霍奇、学院的秘书与图书馆员们的支持与帮助。我们班的学生们，丰富、充实、挑战我们的思想，并鼓励我们将这些内容纳入书中，在此也一并衷心感谢。

还应特别感谢丽贝卡·H·门茨和迈克尔·A·涅米宁，他们以卓越的才能绘制了本书中的那些插图。没有他们的技能、耐心、勤勉和奉献精神，本书是难以成书的。

接下来，还要感谢家人，他们的牺牲、奉献和理解支持了

我们的工作。

其他所有对本书给予鼓励或作出贡献的人们，也在此一并致谢。

我们希望能借此书中所展示的资料，拓宽对建筑学的理解；以实例阐明一种对学生、教师以及设计师都有用的学习方法；并展示一种确定建筑形态与空间形式的分析技巧。

罗杰·H·克拉克 (Roger H. Clark)

迈克尔·波斯 (Michael Pause)

2011年6月

* 正文两边的页码为英文版原书的页码，便于检索。——编者注

P R E F A C E S

v P R E F A C E T O T H E F I R S T E D I T I O N

This book is about architecture.

In particular, it focuses on a way of thinking about architecture that emphasizes what is in essence the same, rather than different. Our concern is for a continuous tradition that makes the past part of the present. We do not wish to aid the repetition or revival of style whether in whole or part. Rather, by a conscious sense of precedent that identifies patterns and themes, we hope to pursue archetypal ideas that might aid in the generation of architectural form.

While architecture embodies many realms, we concentrate on built form. Without apology, we make no attempt to discuss the social, political, economic, or technical aspects of architecture. The domain of design ideas lies within the formal and spatial realm of architecture, and thus it is this arena that is explored in this book.

Obviously, a sound architectural idea will not, as a tool for design, inevitably lead to a good design. One can imagine many undesirable buildings which might originate with formative ideas. To be sensitive to the potential of archetypal pattern in design does not lessen the importance of concern for other issues or for the building itself. However, one commonality shared by the great buildings of this era with those of the past is a demonstrated understanding of basic architectural ideas which are recognizable as formative patterns.

Our analysis and interpretations are of built form and, therefore, may not necessarily coincide with the architect's intentions or the interpretations of others. The analysis is not all-inclusive in that it is limited to characteristics which can be diagrammed.

The intentions of this study are to assist the understanding of architectural history, to examine basic similarities of architects' designs over time, to identify generic solutions to design problems which transcend time, and to develop analysis as a tool for design. Of importance is the development of a vehicle for the discussion of ideas through the use of example. The understanding of history derived from this kind of investigation can only be obtained by far greater labor than that involved in acquiring a knowledge of history that focuses on names and dates. The reward for this effort is a design vocabulary that has evolved and been tested over time. We believe designers benefit from a comprehensive understanding of formative ideas, organizational concepts, and partis.

As a resource, this book offers factual graphic information on 64 buildings, a detailed analysis of each of these buildings, a range of designs by individual architects, a compilation of formative ideas for design generation, a collection of architectural images, and a reference for a technique of analysis. Some of this information is not readily available in other sources.

We are indebted to the Graham Foundation for Advanced Studies in the Fine Arts for support to make this study possible.

Any effort of this nature is the fruit of many encounters with individuals and ideas, but one debt in particular stands out as significant. Through a series of conversations with George E. Hartman, Jr., several years ago, some of our thoughts and ideas about architecture and history were focused. Since that time, he has continuously and enthusiastically offered support and encouragement. James L. Nagel, Ludwig Glaser, William N. Morgan, and the late William

Caudill each generously sponsored our efforts to secure assistance from the Graham Foundation. Roger Cannon, Robert Humenn, and Debbie Buffalin provided valuable help in locating material and information. For their assistance and support we thank several persons in the School of Design: Dean Claude E. McKinney, Winifred Hodge, the secretaries, and the librarians. The students in our classes have enriched, stimulated, and challenged our ideas, and encouraged us to record them in this volume. We fully acknowledge our debt to them.

A special acknowledgment is reserved for Rebecca H. Mentz and Michael A. Nieminen, whose considerable talents were used to draw the sheets reproduced in this volume. Without their skill, patience, diligence, and dedication this volume would not have been possible.

Our gratitude is extended to our families who have aided our efforts through sacrifice, devotion, and understanding.

To all other persons who have encouraged or in some way contributed to this study we collectively give thanks.

By making available the information that is presented in this volume, we hope to expand the understanding of precedents in architecture; to illustrate an educational technique that is useful to students, educators, and practitioners; and to demonstrate an analytic technique that can have impact on architectural form and space decisions.

PREFACE TO THE SECOND EDITION

The success of the first edition indicated that there was a need for conceptual and analytic information about architecture. Our experience with the first edition over the past decade demonstrated that the material has been useful as a tool for teaching architecture. It has provided a vocabulary for analysis that helps students and architects understand the works of others and aids them in creating their own

designs. This approach continues to be useful and there was no apparent need to revise the information. Instead, the second edition gave us the opportunity to enrich the content of the analysis section by adding the works of seven architects. They were chosen initially to augment the content of the original sixteen architects. Some were selected for historical significance, some for lack of widespread documentation of their work. Others were picked because of emerging reputations and the production of a meaningful body of work since the publication of the first edition. All were selected because of the strength, quality, and interest of their designs. It is our intent to continue to show that design ideas transcend culture and time. Keeping the same format, we have added factual and analytic information on two or four buildings by each of the seven new architects.

While some may find this book useful for information about a particular architect or building, it is not our primary purpose to present any one building or architect exhaustively (e.g., photographs, written descriptions, or contract documents). Rather, our intention is to continue to explore the commonality of design ideas through comparison. To achieve this we have used the diagrammatic technique that was developed in the original study. While some of the architects and architectural authors have used diagrams to explain or inform others about the buildings included in this volume, the diagrams in this book are our own creation.

In addition to the acknowledgments cited in the preface of the first edition the following have helped make this edition a reality. The Graham Foundation for Advanced Studies in the Fine Arts supported our work for a second time; for this we are grateful. Van Nostrand Reinhold also contributed grant money to make this edition possible. Both of these sources aided our research and allowed for the production of the drawings.

While difficult to acknowledge all individuals who have contributed to or influenced our ideas, certain people's

efforts deserve recognition. We are indebted to Wendy Lochner for persuading us to attempt a second edition. Her support and encouragement were critical. The editorial staff at Van Nostrand Reinhold provided us with willing and valuable assistance. James L. Nagle, Victor Reigner, and Mark Simon supported our efforts through encouragement, suggestions, and recommendations. Peter Bohlin and Carole Rusche generously contributed valuable information on the works of some of the architects. Collectively, we thank the staff of the School of Design for their willing assistance.

Special recognition goes to Mara Murdoch who single-handedly, with great skill, dedication, and patience, drew all of the new pages.

Finally, we wish to acknowledge all of our students, who have shown us that the study of precedents is a valuable tool for learning to design, and who continue to challenge us.

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PREFACE TO THE THIRD EDITION

We commend to the reader the Prefaces to the first and second editions of this volume. Much of what is included in those Prefaces remains pertinent to us and our feelings about this work. The approach to understanding architecture presented herein continues to be useful and this edition again gave us the opportunity to enrich the Analysis section by adding factual and analytic information on two buildings by each of eight architects.

As with the previous editions, we have chosen to continue to present the buildings as a series of analytical diagrams that examine archetypal ideas. Our intention is to continue to explore the commonality of design ideas for comparison. We, of course, are aware that the architects examined herein may not have embraced the subjects of the diagrams nor, if they did consider the issues, approached them in the same way we have interpreted them. Thus, the diagrams are our

own interpretations and some are more interpretive than others. Obviously these diagrams are then abstractions that focus on an issue that we have identified. For a particular architect or building a single diagram may be clearer or more revealing, which might suggest the identification of an issue of interest to the architect involved. By examining the buildings through the same issues it is possible to see relationships and nuances of development between architects and their buildings. We also understand that architecture has many manifestations—social, technical, economical, cultural, legal, and political. Any or all of these areas can impact the final form of the building, as can an individual architect's or client's personal predilection or whim.

Of those architects, for instance, that have been added for this edition, we know of Sigurd Lewerentz's interest in not doing things the conventional way. He is perhaps not as well known as some of the other architects in this volume, probably because he did not write about his work and did not teach. Fortunately, some publications have appeared in recent years that have chronicled his life and his work. We found it interesting that while he began with a refined, yet original, Classical language (at the Chapel of the Resurrection, for instance), his later work, represented here by the St. John's Church in Klippan, rejected that language. Yet there are similarities between the earlier and later work, as revealed by the analytical diagrams. His work demonstrates a subdued and restrained imagination that resulted in uncompromising and mysterious buildings.

Steven Holl seems to borrow from concepts of biology and geology in making sculpturally fluid spaces. While his buildings gesture toward their context, he has an obvious interest in the introduction and manipulation of natural light for the interior spaces of his buildings. Much has been written about the importance of his sketches and watercolors in capturing the feelings he desires for a building, yet his early interest in geometries is still demonstrated in his recent buildings.

Rafael Moneo's work included in this edition shows his intense use of the site, resulting in a building that is compact and basically fills the site. Through this compactness, Moneo reacts to the urban context while providing an autonomous and animated inner world. Herzog and de Meuron, on the other hand, give obvious priority in their work to the skin, the surface, of their buildings. Perhaps their desire is to create a visual and tactile surface that will create the perception that the built form has disappeared.

The common thread is that each of these architects has, regardless of their interest or considerations, produced built forms that include the physical and spatial realms of architecture. Architecture is not formless. In the end the built form may outlast the current fascinations and considerations. The issues we examine here may not be part of those considerations. Our analytical diagrams afford a way to understand buildings. In some cases they may help build a formal vocabulary. The issues examined could be the means for ordering or organizing an idea, or they may possibly be a way to generate a design. In any case, we can diagram what has been done, but not necessarily why it has been done.

The work that has been used for this third edition is in the same format as the previous editions. The new pages have been seamlessly inserted into the Analysis section in alphabetical order. This section now includes the work of thirty-one architects. Collectively they represent architects of historic importance and those who have produced meaningful work recently. All were selected not only because of the quality and strength of their work, but also because they afford the opportunity to explore buildings, their organizations, and ordering ideas, through comparison.

We began exploring the analysis of architectural precedents in the 1970s and first published such work in a student publication of the School (now College) of Design at North Carolina State University. That volume, titled *Analysis of Precedent*, appeared in 1978. Van Nostrand Reinhold pub-

lished the original edition of *Precedents in Architecture* in 1985 and the second edition followed in 1996. Both editions have been through several printings, and each has been translated into Spanish and Japanese. We are also aware that these editions have been translated on an ad-hoc basis into Korean and Chinese. The second edition received an International Architecture Book Award from the American Institute of Architects. The jury for this awards program, which included books from publishers worldwide, commented that "*Precedents in Architecture* provides a vocabulary for architectural analysis that helps architects understand the works of others and aids in creating original ideas. Whether a novice or professional, this work enriches the reader's design vocabulary."

The success and longevity of this work suggests there is a need for this information about architecture. As we started to produce the material for this third edition, we were keenly aware of the initial premise for the study—the commonality and significance of design ideas that transcend time and place. As the work progressed, these assumptions have been reinforced. Architectural ideas are the underpinnings of architecture upon which other concerns—social, technical, economical, cultural, legal, and political—are layered.

In addition to the acknowledgments cited in the prefaces to the first and second editions, we wish to recognize some people directly related to this edition. It is always difficult to thank adequately all of the individuals who have had an influence on this work or have contributed to its development. We are indebted to each of them whether they knew they had an influence or not. Certain people, however, deserve to be mentioned specifically. This edition would not have existed at all without the efforts of Margaret Cummins of John Wiley and Sons. She approached us about considering a third edition, and she made it all possible by securing for us a grant from John Wiley to support our work. Her powers of persuasion, suggestions, and encouragement were

critical. The other members of the editorial, art, and production staff at Wiley were also helpful. Peter Q. Bohlin, James L. Nagle, and Victor Reignier encouraged us through suggestions and recommendations. We also thank the College of Design, its administration and staff, for their willing assistance.

As with previous editions all of the pages in this edition are from original drawings. While we are responsible for the content of the drawings, Jason Miller has with diligence, patience, and great skill interpreted our sketches to create these thirty-two new pages. We owe him a special thank you.

Finally, as we have done previously, we wish to thank our students, who reinforce, challenge, and question constantly while demonstrating that analytical processes are valuable as a tool for design. They make each day an interesting pleasure.

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PREFACE TO THE FOURTH EDITION

Our commentary in the original, second, and third editions remains relevant and we commend the reader to them. The methodology of analysis and the formative ideas presented continue to be a useful means for providing a vocabulary for understanding the architectural work of others and for creating architecture. It provides a tool for connecting architectural works regardless of time or origin. Thus, it affords the opportunity to transcend style, culture, and type. It reminds us that there is more to architecture than a picture or a well composed photograph.

As with the previous editions we have added to the Analysis section of the book with the desire to present factual drawings and information about the buildings, along with our analysis of these buildings. The new information presents the work of seven architects with two buildings by each of them. This new work has been seamlessly inserted

into the Analysis section using the techniques and format that were developed previously. The analytic diagrams are our interpretations and are thus abstractions that purposely eliminate some information found in the plans, elevations, and sections of the buildings. The desire through these abstractions is to highlight the particular issue being examined. By presenting the factual information on a page adjacent to the analytic diagrams our intention is to aid the reader in connecting the factual information with our interpretation. Placing all of the analytic diagrams on one page affords the reader the opportunity to accumulate information about the building. One can also read from page to page to compare any one analytic diagram to see how different architects addressed that particular issue. Alternatively, one can refer to the Formative Idea section of the book to see collections of diagrams of buildings by various architects about one archetypal idea.

We are aware that the built form from any architect is the result of multiple considerations – social, technical, economic, cultural, legal, and political – not the least of which are the programmatic peculiarities and the client's interests and concerns. Of the architects we have added to this edition we know, for instance, of the importance that the region has had on Brian MacKay-Lyons. His architecture takes advantage of local building skills while responding to the particular geography and climate of the site where he builds. Others have even referred to him as “the poet of place.” However, the importance of place does not change his apparent interest and abilities in other issues of form like geometry, proportion, spatial manipulation, and the relationship between the plan and section that consistently appear in his buildings.

Tom Kundig has indicated on many occasions that his source of inspiration has always been “the large landscape” and clearly he makes gestures in his work to that landscape. He has also written about the seminal influence of a sculptor