

为生活而设计

Design for Life

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请您介绍一下中国景观照明发展的现状，以及所存在的问题。

常志刚（以下简称常）：政府、开发商出于城市美化、营销等目的，对景观的夜间效果日趋重视，于是过街天桥、立交桥、公园、商业区、居住区等的夜间照明项目大批涌现。在这样庞大的市场需求之下，中国的景观照明在近十几年间迅速发展。但照明设计的“门槛”很低，大多数的设计都是由广告公司或电器公司完成的。可以说，照明设计专业化的步伐才刚刚开始。近年来，照明设计逐渐从工程项目中独立出来，作为专项被委托给专业的照明设计公司。一些职业方面的培训也因此开始出现，越来越多的设计师开始专门从事照明设计。此外，在国家的大力扶持之下，中国已迅速成为全球第四代光源LED的主要生产和应用基地。

然而这些发展都是在市场导向下推进的，学术领域未能发挥引领作用。照明设计作为一项专项设计，却并未上升到专业教育的高度（缺乏本科教育），还仅仅停留在职业培训的层面。但这不仅仅是中国正在面临的问题，照明设计在全球来说都是一个新兴学科。在国外，也仅仅是从20世纪五六十年代才开始对照明进行专项的设计。照明设计的专业理论主要由其他相关专业“嫁接”而来，并没有

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摘要 / 照明设计不仅仅在于提供光源，对空间表现、行为塑造都可以提供有价值的见解。本文概述了中国景观照明的发展现状以及所存在的问题，并指出景观照明的节能可通过产品节能、行为节能以及系统节能三种途径来实现，但同时指出，中国景观节能水平的提高关键在于设计师理念的转变。

关键词 / 景观照明；公共艺术；节能；照明品质

Abstract / Lighting design not only provides a light source, but also valuable insight into space, performance, and behavior. This interview concentrates the present state of landscape lighting design in China, and introduces energy conservation in landscape lighting includes installing products that are energy saving, changing behavior to reduce use, and implementing energy saving systems. But in order to improve the level of energy saving in China, the key is changing designers' minds.

Key words / Landscape Lighting; Public Art; Energy Saving; Lighting Quality

形成属于自身的学科理论基础，因此难免笼罩在其他专业的“阴影”之下。照明设计应该涵盖哪些基础知识，如何构建学科框架是这个领域内大家共同关注的问题。

另一方面，我认为，设计师在观念上需要有所改变。当前，绝大多数设计师仍在以一种静态的视角去审美——关注效果图够不够炫、作品美不美

Could you please introduce the present state of landscape lighting design in China?

Zhigang CHANG (CHANG hereinafter): To start, the government and developers are paying more attention to night lighting. This has been in pursuit of city beautification, and has been great for the night illumination of pedestrian bridges, overpasses, parks, commercial districts and residential areas. Over the past decade, because of market demand, landscape lighting in China has developed rapidly. At the same time, barriers to lighting design are quite low. Most of lighting design projects are accomplished by advertising agencies and electric companies. We could say that the specialization of lighting is just beginning. More and more lighting design is becoming independent from engineering, and being implemented by professional lighting companies. Therefore, job training for lighting design is emerging as designers begin to specialize in lighting design. Moreover, with support from the government, China has rapidly become the main source of production and application for fourth-generation LED light sources.

These developments in lighting are driven by the market. Academic fields have not played an important role. However, the education of lighting design is usually deficient, even lacking undergraduate educations. However, China is not the only country facing such problems. Globally, lighting design is emerging as its own specialized discipline in 1950s and 1960s. Without a base of specialized theory, lighting design pulls from related fields and is usually over shadowed by other design majors. The common concern facing all lighting designers is how to build foundational knowledge.

Another aspect to consider is that designers' mind need to be changed. Most of designers still pay more attention to the fantastical affects of drawings. Rather than thinking of how lighting design influences public activities, designers often pay more attention to only the object — beautifying a tree, an artistic creation, or a building.

I have been pondering what can lighting design learn from public art. Public art emphasizes the trinity of audiences, creators and works. It is not enough to see and appreciate artistic works after they are created,



1. 天津文化中心夜景 © 常志刚
1. Night view of Tianjin Culture Center © 常志刚

观，而对于作品将会在城市中发挥怎样的作用未作深入的思考。例如，设计师通常关注如何将一棵树、一个小品、一栋建筑“打扮”得更漂亮，而缺乏对于照明如何影响公共活动的思考。

我一直在思考公共艺术与照明设计之间的关系。公共艺术非常强调观众、创作者与作品的“三位一体”，也就是说艺术家创作了一个作品之后，仅仅停留在供人观赏的阶段是不够的。它必须能够在城市空间中激发某一种活动，或者能够改变空间原有的使用方式，这个作品才具有意义。我认为这正是设计的本质，作为一个设计师，首先要关注人的行为。

照明设计也常常被比作是建筑这块“蛋糕”上起装饰性作用的“奶油”——总是最后被考虑，（当经费有限时）也总是最先被放弃。因为，我们常常存在一个认识上的误区，即一个项目大体完工后，其照明设计工作才能展开。这种观念是非常狭隘的，照明设计不仅仅在于提供光源，对空间表现、行为塑造都可以提供有价值的见解。因此，照明设计尽早介入项目完整的设计过程之中非常关键。

景观照明的节能可以通过哪些途径来实现？其中又存在哪些问题？

常：景观照明节能包括三个方面：产品节能、行为节能以及系统节能。产品节能是指采用更高效的产品，比如应用LED光源。行为节能是指通过改变使用者的行为习惯而实现节能的目标，例如“出门关灯”就是一种行为节能。而在公共空间中，行为节能主要依靠管理模式来实现，需要由设计师预想不同的照明模式，例如依据平日、节假日、重大节日来设定不同的灯光效果，或是根据天气状况来调整亮度，或是只有行人经过时才会亮灯。系统节能是指通过综合布线系统实现整体节能的目标。在这三个方面中，产品节能对景观照明节能的影响较小——同一类产品（如LED产品）之间的能耗并无太大差异——因此，景观照明节能应主要依靠行为节能和系统节能来实现。

我认为，目前的照明节能技术已经发展得非常成熟，而设计观念的滞后带来的浪费才是最大的问

题。正如刚才提到的，中国是LED产品和技术发展最迅速的国家，从这个角度而言，中国已具备非常充足的条件来推进照明节能。然而，我认为在照明方面实现节能的关键在于设计师的观念要转变。设计师都乐意去画图，但很少真正去动手实践。我认为设计师应该向那些“眼与手”并重的公共艺术家学习：眼是指观察能力，手是指实践能力。一个公共艺术家需要自己动手去实现作品。而设计师却非常缺乏这样的意识，也缺乏对于所需产品的了解（无论是安装技术还是最终效果），因此无法像艺术家一样对整个建造过程都能有所把控，使得节能产品和技术的潜力未能完全发挥。但是，照明节能最大的推动力也应该来源于设计师，因为设计师有机会与决策者直接对话，也就有机会将新的理念传达给他们。

您认为在照明设计中强调节能会在一定程度上降低照明品质吗？

常：照明品质可以通过亮度、舒适度和艺术表现力三个方面来衡量。有大量研究探讨过照明品质与其能耗之间的关系，发现当能耗降低（例如降低亮度、减少光源）时，照明品质并不会受到影响。此外，公众的审美趋势也会逐渐变化，他们会渐渐意

2. 瑞典哥德堡市公共空间中的照明设计 © 韩西丽
2. Public lighting design in Gothenburg © 韩西丽



they must add to urban spaces in order to make the works more meaningful. In my opinion, this is the essence of design. As designers, we should focus on human behavior first.

Light is always the last thing considered and is the first thing dropped when the budget is limited. We often seem to deem that only when a project almost finished, could lighting designers start work. Lighting design not only provides a light source, but also valuable insight into space, performance, and behavior. It is critical that lighting design is involved in the design process as early as possible.

What are approaches to saving energy in landscape lighting? What are the problems?

CHANG: Energy conservation in landscape lighting includes installing products that are energy saving, changing behavior to reduce use, and implementing energy saving systems. Products include LED lights and other similar technologies, while energy saving behavior means changing habits to achieve energy reduction. This can be as simple as turning off the lights when you exit a space. In public spaces, energy saving techniques depends on management. For example, different events, such as daily life, holidays, and celebrations require different modes of lighting. Brightness should be regulated according to the weather, lights should have sensors that respond to movement. Energy saving systems usually means using a Premises Distribution System. From these three approaches, using products that save energy is the smallest way to reduce energy costs — there are not big differences in energy consumption among the same kind of products (such as LED products). Therefore, saving energy in landscape lighting depends much on changing behavior, and implementing energy saving systems.

In my opinion, energy saving techniques and products are already very developed. The biggest energy wastes come from backward design ideas. As

mentioned before, LEDs in China developed rapidly, products and techniques already exist for implementing energy saving designs. The key is changing designers' minds. Designers need learn from the public artist who lay equal stress on "eyes and hands". Eyes mean observation, while hands mean practical ability. An public artist should also do the works by themselves. However, designers often lack such an awareness and an understanding of built products (whether the installation technology or the final effect). Therefore, designers cannot always control the construction process, so the potential of energy-saving technologies have not been realized. However, the most powerful force to help increase energy savings are designers because they interact the most with decision-makers.

When you emphasis energy savings in lighting design, do you think that ever sacrifices the lighting quality?

CHANG: Lighting quality could be measured through luminance, comfort level, and the artistic expression. Many researches on the relationship between energy saving and lighting quality show that the decrease of energy consumption (such as lowering luminance and reducing lighting sources) does not contradict lighting quality. At the same time, the public aesthetic values on lighting design — such like "the brighter the better, or the more dazzling the better" — should be changed. I would say that the general brightness level of public spaces in China is too high. Lowering the brightness level is not only good for people's sight, but also can improve urban environments by reducing light pollution, not to mention the large amount of energy saving.

At present, landscape lighting in China tends to be the same and lacks originality. How can we create distinct lighting designs?

CHANG: I think the essence of lighting design is the same as any other design. We design to increase quality

识到照明并不是越亮越好、越炫越好。中国公共空间的照明目前来说普遍过亮，所以对照明进行改善首先要将亮度降低，这不仅是对人的视力的一种保护，也能降低城市环境中的光污染，并能节省大量能耗。节能会引领、推动设计，并不会成为其阻碍。

目前，我国的照明景观设计往往十分雷同，缺乏自身特色。您认为如何才能营造具有特色的照明景观？

常：我认为照明设计的本质与其他类别的设计都是一样的，都是在为生活而设计，因此照明设计的特色就是生活的特色。例如，在台湾的夜市，各家店铺都拥有各自的霓虹招牌，带给人眼花缭乱却又十分亲切的视觉感受，这也正是这种生活方式所具有的魅力。如果要对这种已具有自身鲜明特色的地区进行改造，反而很可能会使其丧失特色。特色没了，人气消失了，市场也就不存在了。所以，我认为最好的特色一定来自于当地的生活模式，好的设计一定是对这种模式具有推动或彰显的作用。在中国，设计师往往喜欢用游客的视角去打造城市，但实际上设计应该首先营造本地的生活模式，只有这种模式才可以衍生出一种内在的吸引力。

在如拉斯维加斯这样的“不夜城”的生活模式下，其照明景观与节能之间是否存在矛盾？

常：肯定存在矛盾，但拉斯维加斯作为一个旅游胜地，几乎都是需要倒时差的游客，过着黑白颠倒的生活，这样的照明景观正是拉斯维加斯的一种特色文化。但正是这样的一种文化刺激着这一地区的经济发展，因此节能需要在特定的经济模式下去衡量，不能采用同一的标准。

您认为未来景观照明的发展趋势是怎样的？

常：我认为未来的照明发展一定是与“智慧城市”联系在一起的。互联网、物联网、大数据、云计算等技术已在照明设计中有所应用，而未来这种融合将更加普遍。这也意味着照明将不仅仅在于提供光源，而将成为智慧城市建设的一部分。LAF

of life. The characteristics of lighting design should be the features of life. For example, in the night markets of Taiwan, each shop uses individual lighting to make people most comfortable. If we adopt too many measures or standards in such distinctive zone, their characteristics might be lost. Therefore, I think the best designs are drawn from local lifestyles and needs. Good design should promote this. In China, we often design cities from the perspective of visitors, but design should be based on the local lifestyle.

Las Vegas is called the city that never sleeps. What are the contradictions between lighting and energy savings?

CHANG: Las Vegas is a place for sightseeing. Some go out during the day, others at night. That is part of the culture of Las Vegas. It helps push the economic development in the region. Energy savings need to be balanced with economics, we cannot adopt one standard for everywhere.

What will be the trend of landscape lighting in the future?

CHANG: The advancement of lighting design, as a discipline, must be connected with the smart cities. Lighting technology is closely connected to ideas of the Internet, Big Data, and Cloud Computing. Their integration should increase and be widespread. This means that illumination will not only supply light source, but also connected the construction of smart cities. LAF



3. 台湾六合夜市
3. Liuhe night market, Taiwan.