

# Design

## An informal commonplace book of observations, opinions, and quotations

### Polykleitos

*Polykleitos consciously created a new approach to sculpture, writing a treatise - the Canon - and designing a male nude exemplifying his aesthetic theories of the mathematical bases of artistic perfection. "Perfection," he said, "comes about little by little through many numbers." By this Polykleitos meant that a statue should be composed of clearly definable parts, all related to one another through a system of ideal mathematical proportions and balance.*

*Polykleitos (c480-420bc)*

*"Canon" discussed and quoted in "Polykleitos" Wikipedia*

### Ictinus and Callicrates

*The Parthenon, designed by Ictinus and Callicrates, is like a complicated and varying formula in three-dimensions that is so very easy when you know how, which sums up very neatly the three characteristics of the first of the world's great architectural styles: its apparent simplicity, its actual complexity, and the rigidly intellectual basis on which it rests. It was a method of building in wood that had been adapted, successfully, to construction in stone. The basis of the style was the lintel, that is to say, the horizontal wooden beam resting on two or more uprights, but on this simple foundation has been raised the subtlest, the most complete, and the most purely logical style of architecture that the world has ever known.*

*At first sight it seems that nothing could be easier than the correct marshalling of these rows of simple columns and it is only when one understands how large a part illusion plays, how many of these seemingly straight lines are actually curved, that one realizes what a miraculous sense of proportion, how formidable a knowledge of mathematics, and what centuries of practice and experiment have been involved in the achievement of this final impression of inspired simplicity.*

*Ictinus (fl. 450bc) and Callicrates (fl. 450bc)*

*discussed by Osbert Lancaster (1908-1986) "A Cartoon History of Architecture" (1973)*

### Aristotle

*Aristotle sees in ethical activity an attraction that is comparable to the beauty of well-crafted artifacts, including such artifacts as poetry, music, and drama. Every craft tries to produce a work from which nothing should be taken away and to which nothing further should be added. A craft product, when designed and produced by a good craftsman, is not merely useful, but also has such elements as balance, proportion, and harmony - for these are properties that help make it useful. Similarly, Aristotle holds that a well-executed project that expresses the ethical virtues will not merely be advantageous but will be beautiful, noble, and fine as well - for the balance it strikes is part of what makes it advantageous.*

*Aristotle (384 - 322bc)*

*discussed by Richard Kraut (1944- ) "Aristotle's Ethics" (2016) Stanford Encyclopedia of Philosophy*

## Vitruvius

*A central goal of the classical architect is to create an order out of the situation in which he finds himself. In organizing the complex and frequently contradictory set of needs and ideas with which he is confronted, he applies an apparatus of known forms and syntax, which organizes those needs and ideas that remain in the finished work as traces of his cognitive process. This apparatus consists of the Orders themselves and the tradition of usage and interpretation that accompanies them. These Orders are paradigms for the resolution of typical formal problems encountered by the architect and having to do with the identities of parts, their relationship to and influence upon one another, and their significance as a sustained allegorical model of the building.*

*Classical architecture contains countless examples of Orders adjusted to suit the purposes of their designer. These adjustments range from minor adjustments of proportion to the virtual invention of an Order absolutely specific to the occasion. This phenomenon results from the interaction of Vitruvius' 'eurythmia' and 'symmetria' in the architectural project. Eurythmia may be thought of as the idealized form of the individual part and symmetria as the correspondence of the parts of an organic whole each carefully adjusted in identity, proportion, iconography, line quality (i.e., its shapes) and the character of light and shadow falling across its surface."*

*Vitruvius (c75-c15bc)*

*"The Ten Books of Architecture" discussed by Charles A. Barrett (1956-1996) "The Poetics of Architectural Form in the Schauspielhaus of Karl Friedrich Schinkel (1781-1841)" Classicist #8*

## Leon Battista Alberti

*"A prudent man should take care to maintain his reputation, and it is sufficient to give honest advice and accurate designs to those who seek your services. If, afterwards, you decide to supervise and complete the work yourself, you will inevitably be held responsible for all the faults and mistakes made by others in their ignorance or negligence. So, the work must be entrusted to skillful, prudent, thorough workmen, who will see that everything necessary is carried out with precision, care, and diligence."*

*Leon Battista Alberti (1404-1472)*

*"Ten Books of Architecture" (1452)*

*"Design or drawing is essential to the visual arts, not only in the sense of line, but also in terms of the intention which initially forms in the artist's mind before it is translated into the work of art. A work of art is, therefore, a material object, but one that has been shaped by the mind and spirit of man."*

*Leon Battista Alberti (1404-1472)*

## Michelangelo

*For generations, drawing - 'disegno' - had been the activity that best defined Florentine art. Long before they were allowed to apply color, apprentice artists were expected to hone their skills at drawing everything around them, from nature to people to works of art and architecture. Michelangelo's advice to one member of his workshop was typical: 'Draw, Antonio, draw and don't waste time.' He himself spent long hours in the garden of Palazzo Medici sketching works of ancient sculpture before he began to learn how to hew costly blocks of marble, just as his elder contemporary Leonardo would draw endless plans on paper before he began to paint or build.*

*Goldsmiths drew, embroiderers drew, architects drew, and thanks to a solid background in drawing a master in one medium could become a master in others. Filippo Brunelleschi turned his talents from the miniature scale of gold jewelry to the gigantic dome of Florence Cathedral. Michelangelo turned from his marble 'David' to the frescoed ceiling of the Sistine Chapel, and Raphael revealed a skill for architecture that equaled his command of paint. They were all trained in Florence.*

*Normally, drawings were only the means to an end, tools to be thrown away when they had served their purpose. Cartoons, the paper mockups for paintings, were particularly vulnerable. Pricked with holes or scored with a sharp point they were often destroyed when their essential lines were transferred to a wall or wooden panel. Sculptors who drew their designs on a block of wood or stone inevitably hacked their 'disegno' away in the act of carving.*

*Paper, moreover, was expensive (and as durable as it was costly). Drawing sheets were pressed into service over and over again. On occasion, artists and architects would use more elaborate, finished drawings to present the projected design of a painting, sculpture, or building to a potential patron, and sometimes these presentation drawings were exhibited or passed around as artworks in their own right, as when Leonardo, perennially behind schedule, displayed his cartoons in public. Michelangelo sometimes supplied drawings to his friends for enjoyment and to his pupils for use in their own creations. In general, however, drawings were as likely to be discarded as kept. At the very least, the sheet of paper would be reused for more drawings until there was no room left on it.*

*Michelangelo (1475-1564)*

*discussed by Ingrid D. Rowland (1953- ) "Sublime, Exhilarating del Sarto" NY Review, December 17, 2015*

## **Titian**

*I remember the description, by his most trusted pupil, Palma Giovane, of Titian at work: how he would rough in the whole design in broad masses, then turn the canvas to the wall; then, when the desire returned, attack it again with equal freedom, and once more relinquish it. Thus, he maintained to the last the passionate eagerness and the instinctive rhythms of the first sketch.*

*Titian (Tiziano Vecelli, c1488-1576)*

*discussed by Kenneth Clark (1903-1983) "Titian" in "Looking at Pictures" (1972)*

## **Andrea Palladio**

*For various aristocratic Venetian families Palladio designed a series of villas and palaces of similar nature and size in such large numbers that no Renaissance architect had an even remotely comparable 'civic' production. These relatively uniform and often repeated commissions enabled him to develop a design method based on a 'system' of very carefully chosen standard elements and a series of simple proportional rules governing their relations. Palladio used forms that were as highly standardized as possible for windows, doors, columns, capitals, stairs, chimneys, and even rooms.*

*Andrea Palladio (1508-1580)*

*discussed by Guido Beltramini (1961- ) "A Silkworm, a Construction Kit, a Ruined Temple and a Book: Clues to the Reasons for Palladio's Success"*

*Like Michelangelo before him, Palladio knew how to bring architecture to life by throwing in a curve, an asymmetry, an oversized ornament, some element just strange enough to transform a placid, predictable design into something uncanny.*

*Andrea Palladio (1508-1580)*

*discussed by Ingrid D. Rowland (1953- ) "The Greek of Toledo" NY Review, June 19, 2014*

## **Giorgio Vasari**

*"After all the eye must give the final judgment, for, even though an object be most carefully measured, if the eye remain offended, it will not cease on that account to censure it. The eye must decide where to take away and where to add as it sees defects in the work, till the due proportion, grace, design, and perfection are attained.*

*Giorgio Vasari (1511-1574)*

*quoted in "Proportion: A Measure of Order" exhibit at Harvard, 1965*

*The notion that there exists a generic theory of art of which the theory of architecture is a specific extension, has been widely-held since the mid-16<sup>th</sup> century, when the artist and writer Giorgio Vasari asserted that painting, sculpture, and architecture are all of common ancestry in that all depend on the ability to draw. This idea became particularly prevalent among English-speaking theorists, since the word 'design' is used to translate both 'disegno' ('a drawing') and 'conchetto' ('a mental plan').*

*Giorgio Vasari (1511-1574)*

*"The Lives of the Most Eminent Italian Painters, Sculptors and Architects" (1550)  
discussed by Peter Collins "Theory of Architecture" Encyclopedia Britannica*

## **Charles Le Brun**

*"The domain of color is to satisfy the eyes, whereas design satisfies the mind. Design imitates all real things, whereas color only represents the accidental."*

*Charles Le Brun (1619-1690)*

*quoted by Wladyslaw Tatarkiewicz (1886-1980) "History of Aesthetics" (1974)*

## **Christopher Wren**

*Perhaps you have heard the story of Christopher Wren, one of the greatest of English architects, who walked one day unrecognized among the men who were at work upon the building of St. Paul's Cathedral in London which he had designed. "What are you doing?" he inquired of one of the workmen, and the man replied, 'I am cutting a piece of stone.' As he walked along, he put the same question to another man, and the man replied, 'I am earning five shillings, two pence a day.' And to a third he addressed the same inquiry and the man answered, 'I am helping Sir Christopher Wren build a beautiful cathedral.'*

*Christopher Wren (1632-1723)*

*discussed by Louise Bush-Brown (1897-1973)*

## **Immanuel Kant**

*"In painting and sculpture the design is the essential thing. Colors may, in their own way, give an added liveliness to what we are looking at. But they can never, in themselves, make it beautiful."*

*Immanuel Kant (1724-1804)*

*quoted by Sebastian Smee "The Secrets of Color" The Atlantic, December, 2014*

## **Robert Adam**

*"Neo-classicism, among its many other effects on domestic architecture, introduced the practice of decorating interiors in a unified style, so that all the details, moldings, furniture, and furnishings of a room appeared to convey a consistent set of references to the antique. While genuinely antique sculptures and vases were the ideal ornaments for a neo-classical interior, they were in short supply, and architects and decorators had to find substitutes.*

*"The architect Robert Adam, aware of the lack of suitable ornaments for the neo-classical interiors of the houses he designed in the 1760's, himself designed ornaments, all of which had to be specially made, the large urns from wood painted to look like stone or pottery and the smaller objects from silver."*

*Robert Adam (1728-1792)*

*discussed by Adrian Forty (1948) "Objects of Desire" (1986)*

## **Josiah Wedgwood**

*The development of forms that both suited the methods of manufacture and satisfied the tastes of the market was the work of design. It would have not been enough for the designs just to have appealed to 18<sup>th</sup> century middle- and upper-class taste, or just to have been such that the craftsman could be relied on to repeat them consistently. The achievement of Wedgwood's modelers was to arrive at forms which satisfactorily fused the requirements of both production and consumption. In this, the modelers were occupied in exactly the same task as every subsequent designer.*

*Certainly, a group of professional industrial designers did emerge in America in the 1920's, but it is wrong to suppose (whatever they themselves claimed) that these were the first industrial designers. The activity that men like Raymond Loewy and Henry Dreyfuss were engaged in had existed in certain industries for well over a century, and the only novel things about their work were the ideas they brought to the job and the products they were called upon to design, from automobiles to radio sets to retractable ball-point pens. In all fundamental respects, the nature of their work - fusing ideas with manufacturing techniques - was identical to that of Wedgwood's humble modelers in the potteries.*

*Josiah Wedgwood (1730-1795)*

*discussed and quoted by Adrian Forty (1948-) "Objects of Desire" (1986)*

## **Ann Lee**

*Lee's mania for cleanliness pervaded the Shaker communities established after her flight to New York in 1784. With their now familiar 'ladder-backs,' Shaker chairs were designed so that they could be hung on the walls while the floors were swept; ornament of any kind provided nooks and crannies where dirt and contagion might thrive, hence the spare construction that has become so admired in our own, post-Bauhaus society.*

*Ann Lee (1736-1784)*

*discussed by Christopher Benfey "Building the American Dream" NY Review, April 6, 2017*

## **Johann Wolfgang von Goethe**

*"In connection with the Berlin pattern or model pictures for manufacturers, the question arose whether the extremely careful drawing of the sheets had really been warranted; but it then transpired that it was precisely the talented young artist and craftsman for whom the execution of these designs had the greatest appeal, and that studying and copying such models was what really enabled him to understand the work as a whole and the high worth of its forms."*

*Johann Wolfgang von Goethe (1749-1832)*

*"On Art and History"*

## **Pierre Charles L'Enfant**

*Major Pierre L'Enfant drew up the plan for Washington, D.C. in 1791. He laid out a grand design of radial avenues over a close-grained grid of residential blocks. He wanted the avenues to swing between monumental terminal points; he wanted them, in his words, "to make the real distance less from place to place." and to provide a dramatic contrast with the general regularity and local beat of gridded neighborhoods.*

*Pierre Charles L'Enfant (1754-1825)*

*discussed by Spiro Kostof (1936-1991) "America by Design" (1987)*

## **Ludwig von Beethoven**

*Did the world need the 'Fifth Symphony' before it was written? Did Beethoven need it? He designed it, he wrote it, and the world needed it. Desire is the creation of a new need.*

*Ludwig van Beethoven (1770-1827)*

*discussed by Louis I. Kahn (1901-1974) quoted by Paul Goldberger (1950- ) "The Mystic" Nation, June 5, 2017*

## **Karl Friedrich Schinkel**

*Schinkel's Schauspielhaus in Berlin, like every other building of merit, achieves a conceptual continuity only by virtue of resolutions of the smallest of details. Its design forms a poetic continuum of vision and reason extending from the most basic decisions of massing and concept, his identification of the dispositions and conflicts of elements, to his choice of apparatus and detailing of parts.*

*Karl Friedrich Schinkel (1781-1841)*

*discussed by Charles A. Barrett (1956-1996) "The Poetics of Architectural Form in the Schauspielhaus of Karl Friedrich Schinkel" The Classicist, #8*

## **Catherine Beecher**

*The early balloon frame decades coincided with another dramatic change in domestic design. Machines had started taking away from the craftsman and artisan the ancient tasks of furnishing and embellishing the house. The most influential designer of this domestic environment was Catherine Beecher, the daughter of a famous New England minister. Since by this time servants were really out of the question except for the very rich, and even then, something of an intrusion into the intimacy of family life, the updated household had to be planned for maximum efficiency and filled with mechanical equipment. The greatest changes Beecher envisioned were to take place in the kitchen. She called it the workroom and systematically rearranged and streamlined it into compact, functional, single-surface workspaces.*

*Catherine Beecher (1800-1878)*

*discussed by Spiro Kostof (1936-1991) "America by Design" (1987)*

## **John Roebling, Washington Roebling, and Emily Warren Roebling**

*The drawings for the Brooklyn Bridge by Washington Roebling, the commanding intellect, number some five hundred. One comes to something in these drawings impossible to catalog, that has little or nothing to do with however much biographical or technical background one might compile. It is the incredible care and concentration you feel in even the least of the drawings, the pride, the obvious love - love for materials, love for elegance in design, love of mathematics, of line, of light and shadow, of majestic scale, and, yes, love of drawing – this passion in combination with an overriding insistence on order, on quality, that we of this very different century must inevitably stand in awe before. You can feel what these people felt for their work and you can't help but be drawn to them.*

*Present day engineering or architectural renderings look very little like these. If in a modern drawing, for example, rivets need be shown, a few suffice, the rest being indicated with a small 'x,' In these from the last century, if there were 140 rivets in a connection, every rivet was drawn, and every one showing how the light would strike it. In drawings such as those for the caissons, each bolt and brace is shown; even the grain of the wood is rendered meticulously in watercolors. In part, but only in part, this can be explained by the fact that many who worked on the bridge were illiterate, or at least so far as reading plans, but as superb craftsmen they could build just about anything if it were pictured exactly as it was meant to look, exactly as it was supposed to be put together.*

*They who made these drawings were a different breed from our present-day technicians, and possibly the most significant difference can be seen in their regard for the total setting in which the bridge was to stand. In these drawings the bridge is never viewed as an isolated entity - it is not the bridge alone that is portrayed in exquisite detail. It is the geological strata through which the foundations must be dug; it is all the little streetscapes over which the bridge will rise, each building done with careful attention to its actual size and character. One drawing is devoted solely to the mast height of the different sailing ships that will be passing beneath the bridge.*

*John Roebling died of tetanus in 1869, and his son, Washington, immediately took charge of the Brooklyn Bridge's construction. When fighting a fire in one of the caissons, he developed caisson's disease, which affected him so badly that he became bed-ridden. It was at this point that Emily stepped in as the 'first woman field engineer' and saw to the completion of the bridge*

*She developed an extensive knowledge of strength of materials, stress analysis, cable construction, and calculating catenary curves through Washington's teachings. For the next fourteen years, Emily's dedication to the completion of the Brooklyn Bridge was unyielding. She took over much of the chief engineer's duties, including day-to-day supervision and project management. She and her husband jointly planned the bridge's continued construction. She dealt with politicians, competing engineers, and all those associated with the work on the bridge to the point where people believed she was behind the bridge's design.*

*At the opening ceremony in 1883, Emily was honored in a speech by Mayor Hewitt, who said the bridge was 'an everlasting monument to the sacrificing devotion of a woman and of her capacity for that higher education from which she has been too long disbarred.'*

*John Roebling (1806-1869), Washington Roebling (1837-1926) and Emily Warren Roebling (1843-1903)  
discussed in "Emily Warren Roebling" Wikipedia*

### **Andrew Jackson Downing**

*Downing developed his view that country residences should fit into the surrounding landscape and blend with the natural habitat. He also believed that architecture should be functional and that designs for residences should be both beautiful and functional.*

*Andrew Jackson Downing (1815-1852)  
discussed in "Andrew Jackson Downing" Wikipedia*

### **John Ruskin and William Morris**

*Making implies a direct relationship between objects and us, and a renegotiation of our roles as designers, manufacturers, and consumers.*

*For figures such as William Morris and John Ruskin, the act of making was a political response to the Industrial Revolution. They saw industrialization degrading labor, social structures, and the conditions of society. In response, Arts and Crafts resurrected the (idealized) vision of medieval craft, welded to growing ideas of socialism, and shaped design practice as a form of resistance intended to reconnect the schisms between labor, products, and capital. In reality, the socialist-maker society the Arts and Crafts movement imagined was very different from the middle-class Victorian domestic market that it served. But should this be seen as a failure? Maybe its ambition to reconfigure the act of 'making' in the industrial world was enough.*

*John Ruskin (1819-1900) and William Morris (1834-1896)  
discussed by Sam Jacob "What Makes a Maker?" Metropolis, March, 2015*

## **Florence Nightingale**

*The best antidote for all these difficulties, for the Victorian hospital architect and the professional nurse, was fresh air. The ward plan with which Miss Nightingale's name became so firmly associated was designed as a long narrow block, of limited height, with tall windows interspersed at regular intervals along both sides to allow cross ventilation, and with space between each pair of windows for a single bed.*

*Florence Nightingale (1820-1910)*

*discussed by Ruth Richardson "Florence Nightingale and Hospital Design" King's Collections, Online Exhibitions*

## **Frederick Law Olmsted**

*Olmsted had done something more than design Central Park. He had introduced an idea - the idea of using landscape creatively. By making nature urbane he naturalized the city. He did something more than introduce the cultivated landscape as a means of urban recreation. By 1870 he had laid down the lines of a complete park program on excellent social and hygienic grounds. By means of shade trees to line the street, wider malls and promenades and open squares, and a system of small recreation parks meant chiefly for the active forms of sport, he sought to make particular functions, not available in the landscape park because of either its character or its remoteness, play a part in the everyday life of the city. Moreover, he saw that the park could not be treated as an afterthought or a mere embellishment of a utilitarian plan otherwise complete.*

*The planners of the brown decades renewed the city's contact with the land. They humanized and subdued the feral landscape. Above all, they made their contemporaries conscious of air, sunlight, vegetation, growth. If we still defile the possibilities of the land, it is not for lack of better example.*

*Frederick Law Olmsted (1822-1903)*

*discussed by Lewis Mumford (1895-1990) "The Brown Decades" (1931)*

## **M. E. W. Sherwood**

*"It has become a crime now in Boston or its elegant neighborhoods to have an unbeautified room. A horsehair sofa, which was once but a misdemeanor, has become one of the capital sins since Mr. Charles Elliott has made it easy and cheap to have a set of furniture beautiful and artistic in the place of the old abominations. No one dares to select a wallpaper which would offend the principles of William Morris, while sideboards and bookcases of medieval design with lovely keys which Lucretia Borgia might have worn at her girdle, and which Benvenuto Cellini may have originally designed, lock up the tea and sugar from pilfering domestics. Doors swing not on modern hinges but on long brass ornamental bars."*

*Mary Elizabeth Wilson Sherwood (1826-1903)*

*quoted by Russell Lynes (1910-1991) "The Tastemakers"*

## **Richard Morris Hunt**

*"Draw, draw, draw, sketch, sketch, sketch. If you can't draw anything else, draw your boots, it doesn't matter; it will ultimately give you control of your pencil so that you can more readily express on paper your thoughts in designing."*

*Richard Morris Hunt (1827-1895)*

*quoted by Russell Lynes (1910-1991) "The Tastemakers" (1954)*

## **Candace Wheeler**

*The term 'interior decorator' was first used in England in the 1820's. Nonetheless, through the years it was often the upholsterer or retailer who advised on the placement of furniture or the use of color in the home.*

*Led by the Suffragette Movement, women began to search for independent means to express themselves both in an artistic sense and as a factor of financial freedom. The thought of outside employment in the Victorian Era was an anathema. However, in America, women were less constricted by preconceived modes of behavior.*

*Candace Wheeler, a fabric designer, in 1877 established the New York Society of Decorative Art with an aim of finding outlets for handicrafts produced by women, especially the thousands of women who were left indigent at the end of the Civil War. As Wheeler stated, the Society "opened the door to honest effort among women. If it was narrow, it was still a door. The idea of earning had entered into the minds of women."*

*Wheeler formed a company, Associated Artists, comprising an entirely female workforce, and produced a book entitled 'Principles of Home Decoration with Practical Examples.' In this book she espoused the idea of interior design as a suitable career for women.*

*Candace Wheeler (1827-1923)*

*"Principles of Home Decoration with Practical Examples" discussed and quoted by Mark McCauley, "Crossroads: Furniture Design in the 20<sup>th</sup> Century" FFI. March 2000*

## **Edgar Degas**

*Degas was engaged in a strategy that has shown up periodically for centuries across every artistic and creative field. Think of it as one step in a cycle. In the early stages, practitioners dedicate themselves to inventing and improving the rules - how to craft the most pleasing chord progression, the perfectly proportioned building, the most precisely rendered amalgamation of rhyme and meter. Over time, those rules become laws, and artists and designers dedicate themselves to excelling within these agreed-upon parameters, creating work of unparalleled refinement and sophistication - the Pantheon, the Sistine Chapel, the Goldberg Variations.*

*But once a certain maturity has been reached, someone comes along and decides to take a different route. Instead of trying to create an ever more polished and perfect artifact, this rebel actively seeks out imperfections – Degas sticking a pole in the middle of his painting, intentionally adding grungy feedback to a guitar solo, deliberately photographing unpleasant subjects. Eventually some of these creative breakthroughs end up becoming the foundation of a new set of aesthetic rules, and the cycle begins again.*

*Edgar Degas (1834-1917)*

*discussed by Scott Dadich "Why Getting It Wrong Is the Future of Design" Wired, September 2014*

## **William Morris**

*William Morris, the archpriest of craftsmanship, whose designs for wallpaper, fabrics, and carpets began a new chapter in the history of interior decoration, urged people to have nothing in their houses except those objects which they knew to be useful or believed to be beautiful.*

*William Morris (1834-1896)*

*discussed by Christopher Hibbert "Social History of Victorian Britain" (1975)*

## **James Abbott McNeill Whistler**

*With his pupils, he advocated simple design, economy of means, the avoidance of over-labored techniques, and the tonal harmony of the final result.*

*James Abbott McNeill Whistler (1834-1903)*

*discussed in "James Abbott McNeill Whistler" Wikipedia*

## **Andrew Carnegie**

*The last years of the 19th century found acceptance of the idea that free libraries should be available to the American public. But the design of the idealized free library was the subject of long and heated debate. On one hand, the library profession called for designs that supported efficiency in administration and operation; on the other, wealthy philanthropists favored buildings that reinforced the paternalistic metaphor and enhanced civic pride. Between 1886 and 1917, Carnegie reformed both library philanthropy and library design, encouraging a closer correspondence between the two.*

*Andrew Carnegie (1835-1919)*

*discussed by Abigail Van Slyck "The Utmost Amount of Effective Accommodation"*

*Journal of the Society of Architectural Historians, 1991)*

## **Charles Locke Eastlake**

*"Excellence of design may be, and, indeed, frequently is, quite independent of cost. Some of the worst specimens of decorative art that I see exposed for sale are expensive articles of luxury. Some of the most appropriately formed, and therefore most artistic, objects of household use are to be bought for a trifling sum."*

*Charles Locke Eastlake (1836-1906)*

*"Hints on Household Taste in Furniture, Upholstery and Other Details" (1868)*

## **H. H. Richardson**

*"In preparing the architectural design, I agree after consultation with the owner, to use my best judgment. I cannot, however, guarantee that the building, when completed, shall conform to his idea of beauty or taste, or indeed to those of any person or school. I can only agree to examine and consider the matter well and carefully, and to recommend nothing which is inconsistent with my own ideas upon these subjects."*

*Henry Hobson Richardson (1838-1886)*

*excerpts "Professional Circular for Intending Clients"*

## **Charles Sanders Peirce**

*"Deduction proves that something 'must' be; induction shows that something 'actually' is operative; abduction suggests that something 'may' be." It is this hypothesizing of what 'may' be, the act of producing proposals or conjectures, that is central to designing."*

*Charles Sanders Peirce (1839-1914)*

*quoted and discussed by Nigel Cross (1942) "Design Thinking" (2011)*

## **Rafael Guastavino**

*Just as Gaudi drew on a host of age-old local construction traditions, including a method for spanning large overhead spaces, Guastavino regularized and industrialized the low-tech, cost-efficient Catalan method of tile vaulting. This technique can be traced back to 14<sup>th</sup> century Spain but may have had its origins in similar methods devised by ancient Romans who colonized Iberia.*

*Guastavino filed patents for the arch system, in which grooved, slightly curved terra-cotta tiles are layered to form a continuous curved surface with more tensile strength than a single thicker stratum, and set with fast-drying plaster.*

*Guastavino's first big American success was his work on McKim, Meade, and White's Boston Public library of 1887-1893. In a tour-de-force of design variation, he came up with different ceiling patterns for each room in the large structure, a veritable three-dimensional catalog for his product's versatility. Significantly, he left the handsome structural tile work fully exposed rather than covering it with plaster, an attitude that anticipated the Modernist practice of celebrating functional elements by letting them show. Thereafter his thriving company supplied Catalan-style roofs and ceilings to hundreds of architectural firms over the next eight decades.*

*Rafael Guastavino (1842-1908)*

*discussed by Martin Filler (1948- ) "Gaudi" in "Makers of Modern Architecture III" (2018)*

## **Louis Comfort Tiffany**

*Tiffany was an innovator, tastemaker, artist, businessman, craftsman, dilettante, and patron. Whatever may be its qualities of design of Tiffany glass and other works, sometimes simple and sometimes elaborately ornamented, there can be no question about the quality of the material of which it is made. It is heavy, it is extremely lustrous, and its colors at their best are astonishingly subtle.*

*Louis Comfort Tiffany (1848-1933)*

*discussed by Russell Lynes (1910-1991) "The Tastemakers" (1954)*

## **Antoni Gaudi**

*Gaudi took a broad view of architecture as multifunctional design, in which every single detail in an arrangement has to be harmoniously made and well-proportioned. This knowledge allowed him to design architectural projects, including all elements of the work, from furnishings to illumination to wrought-iron work.*

*Antoni Gaudi (1852-1926)*

*discussed in "Antoni Gaudi" Wikipedia*

*Gaudi attributed his innate sense of volumetric enclosure to his antecedents' skilled craftsmanship of boilers, kettles, and other heating devices. Whether or not his virtuosic grasp of irregular forms was genetic or acquired through close observation, he certainly could visualize space in three dimensions, an attribute far from common among the general public and not to be taken for granted among design professionals, either.*

*Antoni Gaudi (1852-1926)*

*discussed by Martin Filler (1948- ) "Gaudi" in "Makers of Modern Architecture III" (2018)*

## **Louis Sullivan**

*The challenge was a visual one. How could an office building of ten stories and more be articulated so it would look tall - proud and soaring and of one piece? The challenge was answered by an architect who lived and practiced in Chicago - Louis Sullivan. The design he created to sheathe the tall office building had a ring of finality about it. Vertical shafts of piers soared uninterrupted through the uniform office floors, to be capped with a mighty cornice.*

*Louis Sullivan (1856-1924)*

*discussed by Spiro Kostof (1936-1991) "America by Design" (1987)*

## **Reginald Blomfield**

*"The spirit of classical architecture does not rest on Orders and entablatures, but in a clearness of conception that controls the whole design from first to last, and excludes everything that is not essential to the expression of the dominant idea.*

*"The essential qualities of great architecture will always be the same, whatever form it may take, imaginative planning, fine composition, and just proportion."*

*Reginald Blomfield (1856-1942)*

*quoted by Katherine J. Wheeler "The Splendid Inheritance of the Past" Classicist No. 8*

## **William Lethaby**

*In 1894 Lethaby was appointed Art Inspector to the Technical Education Board of the London County Council. Here he had a pioneering role in developing education in the fine and practical arts, most notably as the founder of the Central School of Arts and Crafts in 1896. His most significant innovations lay in breaking down academic barriers between design (perceived as an artistic and intellectual pursuit) and production (widely perceived as the less sophisticated activity of the craftsman or artisan). Lethaby believed that this was an artificial distinction and sought to have both taught as equally valuable parts of a process of producing a high-quality end product.*

*William Lethaby (1857-1931)*

*discussed in "William Lethaby" Wikipedia*

## **Elsie de Wolfe**

*"I know people plead that they have to buy what is offered; they cannot find simple lamps and hanging lanterns at small prices and so they must buy bad ones. The manufacturer makes just the objects that people demand. So long as you accept these things, just so long they will make them. If all the people who complain about the hideous lighting fixtures that are sold were to refuse absolutely to buy them, a few years would show a revolution in the designing of these things."*

*"Infinite thought and skill were brought to bear on all the ironwork door handles, lanterns, and so forth. The artistic excellence of this work has not been equaled since the 18<sup>th</sup> century. The greatest artists of that day did not think it in the least beneath their dignity and talent to devote themselves to designing the knobs of doors, the handles of commodes, the bronzes for the decoration of fireplaces, the shaping of hinges and locks. They were careful of details and that is the secret of their supremacy."*

*Elsie de Wolfe (1859-1950)*

*"The House in Good Taste" (1913)*

## Edith Wharton

*“My mother had a collection of old lace, which was famous among her friends, and a few fragments of it still remain to me. But the yards are few, alas, for true to my conviction that what was made to be used should be used, and not locked up. I know few sadder sights than museum collections of these Arachne webs that were designed to borrow life and color from the nearness to young flesh and blood. Museums are cemeteries, as unavoidable, no doubt, as the other kind, but just as unrelated to the living beauty of what we have loved.”*

*Edith Wharton (1862-1937)*

*"A Little Girl's New York" Harper's March 1938*

*Wharton's ideas on form in decorating are consistent with her ideas on form in fiction. According to Wharton, a work of art should be composed of parts assembled in harmonious balance, no part distracting the viewer from the impression of the whole. She despised details that do not reinforce the primary design. Her novels have balanced, architectural structures, and she used that sense of form to evaluate everything she saw, from clothing to interiors to gardens.*

*Edith Wharton (1862-1937)*

*discussed by Eleanor Dwight "Edith Wharton: An Extraordinary Life" (1994)*

## Edith Wharton and Ogden Codman Jr.

*“France and England, in the 18<sup>th</sup> century, excelled in the making of plain, inexpensive furniture of walnut, mahogany, or painted beechwood. Simple in shape and substantial in construction, this kind of furniture was never tricked out with molded bronzes and machine-made carving, or covered with liquid gilding, but depended for its effect upon the solid qualities of good material, good design, and good workmanship.”*

*“The quest of artistic novelties would be encouraging were it based on the desire for something better, rather than for something merely different. The tendency to dash from one style to another, without stopping to analyze the intrinsic qualities of any, has defeated the efforts of those who have tried to teach the true principles of furniture designing by a return to the best models. It is not the maker but the purchaser who sets the standard; and there will never be any general supply of better furniture until people take time to study the subject, and find out wherein lies the radical unfitness of what now contents them.”*

*“It may be laid down as a general rule in house decoration that what must be done cheaply should be done simply. Let the fundamental work be good in design and quality and the want of ornament will not be felt.”*

*“In England wooden stair rails were in great favor during the Tudor and Elizabethan period. These rails were marked rather by fanciful elaboration of detail than by intrinsic merit of design, and are doubtless more beautiful now that time has given them a patina, than they were when first made.”*

*Edith Wharton (1862-1937) and Ogden Codman Jr. (1863-1951)*

*“The Decoration of Houses” (1897)*

*For an age which has forgotten how to build with grace and nobility, the Wharton-Codman book might still usefully serve as a perfect historical guide to great houses of the past, their design, arrangements, and functions. But the book has a yet deeper and finer message for our spiritual and domestic aridities. It is really about that 'more complex art of civilized living' of which Mrs. Wharton has spoken. 'The Decoration of Houses' could just as appropriately be entitled 'The Graces of Life,' for its real subject is not just houses but the quality of life in them, the classical question of 'how to live.'*

*Edith Wharton (1862-1937) and Ogden Codman Jr. (1863-1951)*

*"The Decoration of Houses" (1897) discussed by William A. Coles "The Genesis of a Classic"*

## **Henry Ford**

*"I will build a car for the great multitude. It will be large enough for the family, but small enough for the individual to run and care for. It will be constructed of the best materials, by the best men to be hired, after the simplest designs that modern engineering can devise. But it will be so low in price that no man making a good salary will be unable to own one – and enjoy with his family the blessing of hours of pleasure in God's great open spaces."*

*Henry Ford (1863-1947)*

*"My Life and Work"*

## **Wassily Kandinsky**

*Color was "a power which directly influences the soul," in the words of Wassily Kandinsky, and at the Bauhaus he proposed the theory that primary colors are intrinsically linked with basic forms. In a kind of utopian holy trinity, triangles were yellow, squares red, and circles blue. These pairings became the foundation of a new design grammar to be applied not just to canvas and sculpture but to daily existence - refashioning everything from buildings and chairs to cradles and nursery toys.*

*Wassily Kandinsky (1866-1944)*

*discussed by Sebastian Smee "The Secrets of Color" The Atlantic, December 2014*

## **Frank Lloyd Wright**

*"To be honest commonly means to be undisguised, frankly showing purpose, free from deceit and hypocrisy. Every work of art that amounted to anything was all that first and whatever else it was afterward.*

*"Bring out the nature of the materials, let their nature intimately into your scheme. Reveal the nature of the wood, plaster, brick, or stone in your designs; they are all by nature friendly and beautiful. No architectural treatment can be really a matter of fine art when these truly natural characteristics, or their essential nature, is outraged or neglected."*

*Frank Lloyd Wright (1867-1959)*

*"On Architecture" (1941)*

*One can sum up the effect of Wright's many innovations in design by saying that he altered the inner rhythm of the modern building: effecting these alterations on the most traditional form of building, with the most stable and traditional requirements, he opened the way for a fresh attack on all the problems of modern architecture.*

*Wright kept alive the tradition of experiment. He introduced sunlight and the glass opening, to take the place of the opaque and light-belittling wall: he widened the gamut of materials with which the architect worked. No American architect has had the command over materials that Wright has exercised, or the understanding of the specific use and beauty of each material: - steel, copper, glass, concrete, brick, stone, wood.*

*There is, however, one great weakness in Mr. Wright's architecture, a weakness inherent in the transitional state of his society: far too great a burden rested on the architect. It was not merely necessary that he should design the building: he had to invent the methods of construction, alter established rules of procedure, create new types of furniture, rugs, chinaware: everything from the foundation table to the roof must bear the imprint of his personality. A man of genius delights in such a load: but architecture as a social art cannot depend upon the existence of men of genius: when it is in a healthy state it relies on the commonplace efforts of the carpenter, the builder, the engineer, the manufacturer, and the task of the architect is not to usurp the work that is done in these departments, but to organize it intelligently and to create out of it an orderly composition.*

*Frank Lloyd Wright (1867-1959)*

*discussed by Lewis Mumford (1895-1990) "The Brown Decades" (1931)*

*Wright interpreted contemporary trends toward open plans and the blending of indoor and outdoor spaces. The masses of the prairie house are low and spreading, the horizontal reflecting the earth-lines of his native Midwest. He made the main floor one continuous open space in which living, dining, and other common rooms are made to flow into each other. A massive fireplace rivets the long low wings of his prairie house. The interpenetration of volumes was emphasized by continuous horizontal trim both inside and outside. The overhanging eaves protect the narrow window bands. He works nature right into the facade of his house with plant-filled urns and built-in window boxes.*

*Another aspect of the prairie house was its emphasis on preindustrial imagery and crafts-oriented aesthetic. Stained glass panels were used in windows and skylights, lamps, and cabinet doors; their designs were stylized sumac, wheat, butterflies and other flora and fauna of the prairie. All these fittings and all the furniture were designed by Wright and were executed by an exceptional group of artisans and craftsmen*

*Frank Lloyd Wright (1867-1959)*

*discussed by Spiro Kostof (1936-1991) "America by Design" (1987)*

Wright promoted a philosophy of 'organic architecture' that stressed a closer, more humanistic connection to the land.

*Fallingwater is spectacularly and unconventionally beautiful. The familiar, much published view shows a set of cascading horizontal concrete balconies dramatically suspended over a rushing waterfall, attached to the land by a vertical stone tower that contains an anchoring chimney and interior hearth. The house is so magically married to its site that it is thrilling to experience. Wright's sense of the land is uncanny; he has locked building and setting together in a visual and environmental embrace. The effect is not of nature violated but of nature completed - a dual enrichment.*

*What you are unprepared for is the sound. You hear water rushing softly, falling steadily, a kind of background music that stays with you as clearly as the image of the building. Designed and driven by its setting, Fallingwater fills the mind and the senses.*

*Frank Lloyd Wright (1867-1959)*

*discussed by Ada Louise Huxtable (1921-2013) "Fallingwater: A Marriage of Nature and Art" Wall Street Journal, March 8, 2006*

## **William Welles Bosworth**

*Classes began on campus that fall of 1916, and as Maclaurin had hoped, MIT's graceful dome and Beaux-Arts façade, designed by William Bosworth, projected the importance of science and technology in modern life. The design of the new campus would have a profound impact on the Institute's evolving culture. New Technology's flexible academic spaces, its interconnected corridors, and the close proximity of the departments would foster interdisciplinary work and encourage a new and special kind of intellectual entrepreneurialism. The buildings' ready adaptability to changing priorities would force faculty to demonstrate that their work - and use of space - was 'MIT-worthy,' pushing them to focus on solving important problems.*

*William Welles Bosworth (1869-1966)*

*discussed by Deborah G. Douglas "The Move That Shaped MIT" Technology Review, May 2016*

## **Edwin Lutyens**

*"That time-worn Doric Order - a lovely thing - I have the cheek to adopt it. To be right you have to take it and design it - you cannot copy; you find if you do you are caught, a mess remains. It means hard labor, hard thinking, over every line in all three dimensions and in every joint; and no stone can be allowed to slide. If you tackle it in this way, the Order belongs to you, and every stroke, being mentally handled, must become endowed with such poetry and artistry as God has given you. You alter one feature (which you have to, always) then every other feature has to sympathize and undergo some care and invention. Therefore, it is no mean game, nor is it a game you can play lightheartedly.*

*"You cannot play originality with the Orders. They have to be so well digested that there is nothing but essence left. When right they are curiously lovely - unalterable as plant forms - The perfection of the Order is far nearer nature than anything produced on impulse or accident-wise."*

*Edwin Lutyens (1869-1944)*

*Excerpts of letters, quoted by John Summerson (1904-1992) "The Classical Language of Architecture" (1963)*

## **Julia Morgan**

*She designed around a natural landscaping, leaving trees in place where possible and letting views help determine building placement.*

*Julia Morgan (1872-1957)*

*discussed by Meghan Drueding "Ahead of Her Time" Preservation, summer 2015*

## **Eliel Saarinen**

*"Always design a thing by considering it in its next larger context. A chair in a room, a room in a house, a house in an environment, an environment in a city plan."*

*Eliel Saarinen (1873- 1950)*

*quoted by Peg Faimon and John Weigand "The Nature of Design" (2004)*

## **Frank Pick**

*"Design should be modest and not too grandiose in scale, not too logical in form; a reasonable compromise between beauty and utility, neither overstressing beauty until it degenerates into ornament, or overstressing utility until it becomes bare and hard."*

*Frank Pick (1878-1941)*

## **Clive Bell**

*"We feel towards a picture by Cezanne or Masaccio or Giotto as we feel towards a Romanesque church; the design seems to spring upwards, mass piles itself on mass, forms balance each other masonry-wise; there is a sense of strain, and of strength to meet it."*

*Clive Bell (1881-1964)*

*"Art" (1914)*

## **Edward Hopper**

*"Just to paint a representation or design is not hard, but to express a thought in painting is. Thought is fluid. What you put on canvas is concrete, and it tends to direct the thought. The more you put on canvas the more you lose control of the thought. I've never been able to paint what I set out to paint."*

*Edward Hopper (1882-1967)*

*quoted by Alexander Eliot (1919-2015) "Three Hundred Years of American Painting" (1957)*

## **Walter Gropius**

*"The Bauhaus was opened in 1919 with the specific object of realizing a modern architectonic art, which like human nature was meant to be all-embracing in its scope. Our guiding principle was that design is neither an intellectual nor a material affair, but simply an integral part of the stuff of life, necessary for everyone in a civilized society."*

*Walter Gropius (1883-1969)*

*"Scope of Total Architecture" (1955)*

*Gropius came to the Bauhaus from a career in architecture, and he viewed all design as architectonic in basic character. With this understanding, he approached all design problems as basically similar, and thus considered it necessary for all designers to have the same basic education. His modern architectonic art included all artistic activity as well as all design problems. The educational program was intended to remove the academic distinction between the so-called fine arts and the so-called applied art or crafts.*

*“What the Bauhaus preached in practice was the common citizenship of all forms of creative work, and their logical interdependence on one another in the modern world.”*

*Walter Gropius (1883-1969)*

*discussed and quoted by Bernard Michael Boyle, quoted by Martin Filler (1948- ) “The Unsinkable Modernist” NY Review, September 26, 2019*

## **Ludwig Mies van der Rohe**

*Mies remained an artist committed to the design of the individual building. His lifelong interest was the creation of the most perfect product that an infallibly refined taste and progressive technology could produce. His singular aim was the beautiful and efficient framing of large, all-purpose spaces; some worked superbly, some did not. But the strong, richly austere aesthetic that he established was an unparalleled expression of new materials and engineering techniques.*

*Ultimately, the excellence of these buildings rests on the same basis as that of any of the greatest monuments of the past: fine proportion, sensitive detail, and expressive pertinence to their times.*

*Ludwig Mies van der Rohe (1886-1969)*

*discussed by Ada Louise Huxtable (1921-2013) “The Soaring Towers That Gave Form to an Age” NY Times, August 19, 1969*

*In the Barcelona Pavilion the walls are screens but they do not define a fixed volume. The volume beneath the post-supported slab roof is in a sense bounded by imaginary planes. The design is unified by the roof, not by the usual exterior screen wall.*

*Ludwig Mies van der Rohe (1886-1969)*

*discussed by Henry-Russell Hitchcock (1903-1987) and Philip Johnson (1906-2005), “The International Style” (1932)*

## **Le Corbusier**

*In the late 1920's, a wealthy family commissioned Le Corbusier to design a country house just outside Paris. In a letter to the architect, the homeowner detailed exactly what the family wanted, room by room, down to the square meter. The list is striking for the glimpse it offers of the priorities of an affluent family in the first half of the last century. Most fascinating is the stark wish list for the kitchen: '3 sockets supplying high-power current and 3 lights.' The house became the 'Villa Savoye,' known now as Corbusier's reinforced concrete marvel. Le Corbusier's wealthy clients weren't going to use their kitchen; it was for their staff."*

*Le Corbusier (1887-1965)*

*discussed by Amanda Dameron "Simple Modern Ideas" Dwell, April, 2015*

*Le Corbusier placed systems of harmony and proportion at the center of his design philosophy, and his faith in the mathematical order of the universe was clearly bound to the Golden Section and the Fibonacci series, which he described as “rhythms apparent to the eye and clear in their relations with one another. And these rhythms are at the very root of human activities. They resound in Man by an organic inevitability, the same fine inevitability which causes the tracing out of the Golden Section by children, old men, savages, and the learned.”*

*Le Corbusier (1887-1965)*

*discussed in "Le Corbusier" Wikipedia*

*A well-designed house not only fits its context well but also illuminates the problem of just what the context is, and thereby clarifies the life which it accommodates. Thus, Le Corbusier's invention of new house forms in the 1920's really represented part of the modern attempt to understand the 20<sup>th</sup> century's new way of life.*

*Le Corbusier (1887-1965)*

*discussed by Christopher Alexander (1936- ) "Notes on the Synthesis of Form" (1964)*

## **Joseph Albers**

*"To design is to plan and organize, to order and relate and to control. In short, it embraces all means opposing disorder and accident. There it signifies a human need and qualifies man's thinking and doing."*

*Josef Albers (1888-1976)*

*quoted by David A. Lauer "Design Basics" (1990)*

## **Raymond Loewy**

*When Raymond Loewy arrived in Manhattan in 1919, U.S. companies did not yet worship at the altars of style and elegance. That era's capitalists were monotheistic – efficiency was their only god. American factories produced an unprecedented supply of cheap goods by the 1920s, and it became clear that factories could make more than what consumers naturally wanted. It took executives like Alfred P. Sloan, the CEO of General Motors, to see that by, say, changing a car's style and color every year, consumers might be trained to crave new versions of the same product. To sell more stuff, American industrialists needed to work hand in hand with artists to make new products beautiful – even 'cool.'*

*Loewy had an uncanny sense of how to make things fashionable. He believed that consumers are torn between two opposing forces: neophilia, a curiosity about new things; and neophobia, a fear of anything too new. As a result, they gravitate to products that are bold, but instantly comprehensible. Loewy called his grand theory 'Most Advanced Yet Acceptable.' He said to sell something surprising, make it familiar and to sell something familiar, make it surprising.*

*To acquaint himself with the deficiencies of Pennsylvania Railroad trains, Loewy traveled hundreds of miles on the speeding locomotives. He tested air turbulence with engineers and interviewed crew members about the shortage of toilets. A great industrial designer, it turns out, needs to be an anthropologist first and an artist second. Loewy studied how people lived and how machines worked, and then he offered new, beautiful designs that piggybacked on engineers' tastes and consumers' habits.*

*Raymond Loewy (1893-1986)*

*discussed by Derek Thompson (c1986- ) "What Makes Things Cool" The Atlantic,*

*January 2017*

## **Tetsuro Yoshida**

*"The Japanese house is a detached house with a garden; between house and garden there is an intimate relationship, the interior of the house and the garden forming an organic whole. It has many large door and window apertures and rooms open to the outside, making it highly adaptable to the climate of the country and creating a strong link with nature. The plan of the house is flexible; the divisions of the rooms and their multifarious uses are easily changed. Design and construction are practical and rational and result in architectural beauty. The grouping of the rooms, with the Tokonoma at the center, is clean, simple, and clear. Unpainted wood is used so that the natural beauty of grain and color is given its full value. Furniture is appropriately built-in and other measures are taken to permit the full use of available room and give an impression of spaciousness. The size of rooms and the various structural components are standardized down to the smallest detail, making possible rapid and cheap construction without robbing the house of its individual character."*

*"It was in the 16<sup>th</sup> century, with its love of pomp, that the tea-room - often built independently as a tea-hut - made its appearance. It was a room specially devoted to the tea ceremony as a philosophic and aesthetic cult. Thanks to its simple, restful, and practical design it achieved a rare interior beauty."*

*Tetsuro Yoshida (1894-1956)*

*"The Japanese House and Garden" (1955)*

## **R. Buckminster Fuller**

*Fuller ridiculed the convoluted and archaic process of designing and building a house in the conventional way by describing what it would be like if we acquired our automobiles in the same way: "It would be as if the man wanting to buy an automobile were to visit one of five thousand automobile designers in New York City, equivalent to New York's five thousand architects. and were to commence retention of the designer by the limitation that he wanted the automobile to resemble outwardly a Venetian gondola, a jinriksha of the Tang dynasty, a French fiacre, or a Coronation coach of Great Britain, and he and the "designer" were together to pick and choose, from catalogues and advertisements, motors, flywheels, fenders, frame parts offered in concrete, brass, sugar cane fiber, walnut, etcetera, and succeeded in designing an automobile somewhat after the style of some other fellow; and they were then to have the design bid upon by five local garages in Queens Village, and the local bank, in loaning the money to the prospective 'owner' had some practical man look over the plans so that, guessing at the cost, he might base a loan thereon, incidentally insisting on the replacement of several parts and methods by others in which the bank was 'interested'."*

*R. Buckminster Fuller (1895-1983)*

*discussed and quoted by Spiro Kostof (1936-1991) "America by Design", (1987)*

## **Lewis Mumford**

*"Modern industrial design is based on the principle of conspicuous economy but the bourgeois culture which dominates the Western World is founded on the principle of conspicuous waste."*

*Lewis Mumford (1895-1990)*

*"Modern American Design" (1930)*

*"How to restore by good design in the community the spaciousness, the color, the interest that is lacking in the environment of the individual house? Once we face the problem of housing decently the great mass of the population - a problem which Western civilization has flinched from during the entire industrial period - we must recognize that the means are strictly limited. Sunlight, air, gardens, play-space, outlook: these are the main requirements of the modern house; and in providing these elements on a communal scale, the architect can no longer work for the single individual: his individual house will be a type-unit, adapted to the special whole in which it functions. Plainly, then, the integrated modern house cannot be created by a single hand; above all, it cannot be integrated merely from within. It requires an adequate type of community plan, properly oriented to sunlight, with publicly maintained open spaces and gardens and insulation from unnecessary traffic and movement: its bare severe interior - so necessary for simplified housekeeping - requires the presence of sunlight and living plants, pictures, and people to be fully humanized."*

Lewis Mumford (1895-1990)

*"The Brown Decades"* (1931)

### **Skidmore, Owings, and Merrill**

*All in all, the Manufacturers Trust Building, designed by Skidmore, Owings, and Merrill, is perhaps as complete a fusion of rational thinking and humane imagination as we are capable of producing today. As a symbol of the modern world, this structure is almost an ideal expression. The interpenetration of inner space and outer space, the fact that the principal functions of the building are as visible from the outside as those of a supermarket, that the same freedom of space and light has been provided in every part of the structure, thus giving the executive officers, the staff, and the clients the same architectural background – this certainly reflects the economic, the social, and the aesthetic principles of the modern business world at their best.*

John Merrill (1896-1975) Louis Skidmore (1897-1962) Nathaniel Owings (1903-1984)  
discussed by Lewis Mumford (1895-1990) *"Crystal Lantern"* *New Yorker*, 1954

### **John Burchard**

*"The truth of architecture has to be that it serves people well. If illusion is needed there is nothing wrong with illusion. The component of architecture which has to do with a sense of visible credibility is that the appearance shall seem reasonable. The reaction to architecture should be first immediate, sensuous, even irrational. The first gasp of delight or awe is more important than the more esoteric pleasures of detailed analysis. Architects should design for people's emotions and not for the praise of their colleagues or the critic's circle.*

*"No detail is of indifference to architecture and though fundamentally bad work cannot be promoted to good by fine details, fundamentally good work can be seriously degraded by bad or slovenly detail.*

*"Although one need not make a fetish of structural 'honesty', I think it is fair to say that the heyday of every building material has been when the structure was best developed and when the material was part of the structure and not merely a covering for something else which was really doing the work. On such an assumption the apogee of stone occurred, in my opinion, in the high Gothic of the 13<sup>th</sup> century and early 14<sup>th</sup> century in France."*

John Burchard (1898-1975)

*"Bernini is Dead? Architecture and the Social Purpose"* (1976)

## **Louis Kahn**

*"During the early years of his career he built little, and taught and thought much, developing a personal language that combined poetry and philosophy in tantalizing and elusive intimations of deeply felt universal truths. They were truths that he sought persistently in architecture: the meaning of a wall, or a roof, or a door, the way light brought spirit to a structure, what a building 'wanted to be.' He pursued basic answers, in the deepest terms of art and humanism.*

*He tried, in a process of sophisticated purification, to 'reinvent' architecture. He looked for something he called, interchangeably, Order, or Form, which he saw as a kind of self-revelatory information about building - if one looked hard enough - that forged functional and social needs and the 'will' of materials and structure into a humanistic whole. He probed constantly for this 'reality.' It involved intense analysis of what he called 'served and servant' spaces,' both of which he felt deserved equal design consideration and expression. He 'asked' materials what they 'wished' to do'. At Ahmedabad the brick answered, in Kahn's words, 'I like an arch.' At Exeter, the brick arches 'requested' the greater support of concrete. Everywhere he pursued 'the thoughtful making of spaces.'"*

*Louis I. Kahn (1901-1974)*

*discussed and quoted by Ada Louise Huxtable (1921-2013) "The Meaning of a Wall" NY Times, April 7, 1974*

## **Henry-Russell Hitchcock and Philip Johnson**

*"The principles of the International Style are few and broad. They are not mere formulas of proportion such as distinguish the Doric from the Ionic order; they are fundamental, like the organic verticality of the Gothic or the rhythmical symmetry of the Baroque. There is, first, a new conception of architecture as volume rather than mass. Secondly, regularity rather than axial symmetry serves as the chief means of ordering design. These two principles, with a third proscribing arbitrary applied ornament, mark the production of the International Style."*

*Henry-Russell Hitchcock (1903-1987) and Philip Johnson (1906-2005)*

*"The International Style" (1932)*

## **Carlo Scarpa**

*The drawings made to study and investigate the subject in question represent the expression and development of his design thinking through various techniques of representation, from the tiny, rapid sketch to the drawing of exact detail, the general plan and the elevation, which are often on the same drawing and denote the architect's overall vision.*

*Carlo Scarpa (1906-1978)*

*discussed by Alba Di Lieto "Carlo Scarpa in Verona" Architecture & Urbanism, November 2009*

## **Oscar Niemeyer**

*"I deliberately disregarded the right angle and the rationalist architecture designed with ruler and square to boldly enter the world of curves and straight lines offered by reinforced concrete. This deliberate protest arose from the environment in which I lived, with its white beaches, its huge mountains, its old baroque churches, and the beautiful suntanned women."*

*Oscar Niemeyer (1907-2012)*

*"The Curves of Time: The Memoirs of Oscar Niemeyer" (2000)*

## **Charles Eames**

*"What is design? A plan for arranging elements in such a way as to best accomplish a particular purpose."*

*Charles Eames (1907-1978)*

*quoted by Peg Faimon & John Weigand "The Nature of Design" (2004)*

*"Design is the expression of a certain goal. If it is of high enough quality, it may later on be called art."*

*Charles Eames (1907-1978)*

*"Design depends largely on constraints. One of the effective keys to the design problem is the ability of the designer to recognize as many of the constraints as possible and his or her willingness and enthusiasm for working within these constraints – constraints of price, of size, of strength, of balance, of surface, of time and so forth – each problem has its own particular list."*

*Charles Eames (1907-1978) and Ray Eames (1912-1988)*

*"Design Q and A" (1967) quoted by Karl Aspelund (c1964-) "The Design Process" (2006)*

## **Alexander Girard**

*"Designs that are fresh, interesting, and different are not achieved if being fresh, interesting, and different is the prime objective."*

*"I find that those of my designs that satisfy me personally are the only ones worth producing."*

*Alexander Girard (1907-1993)*

*quoted by Paul Makovsky "The Wit and Wisdom of Alexander Girard" Metropolis*

## **George Nelson**

*"Total design as it appears to me, is nothing more or less than a process of relating everything to everything. Business configurations and behavior in relation to products and information, in relation to the social and synthetic environments, in relation to the people inside and outside."*

*"One of the constraints on a designer is that he cannot function without a client. And we discovered years ago that the output from our office varied like crazy depending on whether we had a good client or a bad one. A bad one was really someone who didn't know what it was all about, a blind bookkeeper, in other words."*

*"There are so many choices right now that people have problems determining what's 'good'. Nobody really knows what a decent housing development should be like. Or an office building. Or whatever you are designing for people. We're living in a time of illusion, when there are no standards against which anything can be measured. We have just completely lost all sense of how you design for human use."*

*"The only possible mission for architecture today is the creation of humane environments. We really have to relearn what that is all about. And I think you begin by trying to become human again. You stop thinking about people as statistical units and really try to figure out what they're all about - what turns them on and what turns them off. We've forgotten how to do this. Ask an interior designer to humanize an office environment, and all he can come up with is plants."*

*George Nelson (1908-1986)*

*Herman Miller publication, 1975*

*"Unless one has a theory, observation, surveys, and all the other fact-finding procedures are useless, simply because one doesn't know what to look for.*

*"My theory is that the arrival of more electronic gadgetry in the office creates minor problems of deciding where to put it, but it is just more hardware like typewriters and telephones. Nothing really happens to the office as a work space.*

*"The rest of my theory is that, if one wants to break through existing problems in office planning and design, the answers are to be found in the people, not the hardware. You can also add to that theory, which is that the office should become a more humane work place.*

*"This now takes us to the point where the designer, concerned with the creation of a humane office, may legitimately suspect that such an office should have important aspects of sociability, and that the work, to whatever degree possible, have some fun in it. At this point we can anticipate the arrival of the mechanist, 19<sup>th</sup> century mind, lodged in both client and designer, to tell us that only some kinds of work are fun. Everything else is dirty, noisy, repetitive, boring drudgery.*

*"This is true in a limited sense. A young mother, changing her baby's diaper for the third time in a morning, is doing a dirty, noisy, boring job. So do the partisans in Afghanistan. What makes work boring is lack of meaning. Designers can ameliorate some of the physical conditions, but managements have to deal with the matter of meaning and they, like the designers, could do a lot better than what they have been doing."*

*George Nelson (1908-1986)*

*"Notes on the Office" April 2, 1982*

*"The contemporary architect, cut off from symbols, ornament, and meaningful elaborations of structural form, all of which earlier periods processed in abundance, has desperately chased every functional requirement, every change in sight or ornamentation, every technical improvement, to provide some basis for starting his work. Where the limitations were most rigorous, as for example in a factory, or in a skyscraper where every inch had to yield its profit, there the designers were happiest and the results most satisfying; but let a religious belief or a social ideal replace the cubic foot costs or radiation losses, and nothing happened. There is not a single modern church in the entire country that is comparable to a first-rate cafeteria, as far as solving a problem is concerned."*

*George Nelson (1908-1986)*

*discussed and quoted by Stanley Abercrombie "George Nelson: The Design of Modern Design" (1995)*

*“Design is an attempt to make a contribution through change. When no contribution is made or can be made, the only process available for giving the illusion of change is ‘styling’.”*

*George Nelson (1908-1986)*

*quoted by Vance Packard (1911-1996) “The Waste Makers” (1960)*

*“What the creative act means is the unfolding of the human psyche in the sudden realization that one has taken a lot of disconnected pieces and found a way of putting them together.”*

*George Nelson (1908- 1986)*

*quoted by Peg Faimon & John Weigand “The Nature of Design” (2004)*

### **John Kenneth Galbraith**

*“Drawing on the inheritance of the Italian artistic tradition, Italian consumer products have a marked advantage in design. This illustrates a universal and insufficiently noticed dynamic: after consumer objects wear well and work well, they must look well – must appeal to the eye and to fashion. After the engineer comes the artist. Here is the true source of the Italian achievement: more than any other ethnicity, the Italians have recognized that the arts are not only enjoyable but, industrially speaking, highly functional.”*

*John Kenneth Galbraith (1908- 2006)*

*“A Journey Through Economic Time” (1994)*

### **Osbert Lancaster**

*“The expansion of London and the increase, both in numbers and importance of the middle-class, provided the 18<sup>th</sup> century architect with one of his most important tasks. The problem of housing large numbers of city merchants and professional men, and all with big families, at no great distance from their place of business, at the same time maintaining some order and dignity, was not a light one, but nevertheless the solution arrived at was, granted the social conditions of the time, as nearly perfect as possible and constitutes one of the great triumphs of English architecture. This happy result was largely brought about by the development in combination of the two great discoveries of town planning – the terrace and the square. Regent’s Park is the classic example.*

*“The first presented the architect with a unit sufficiently large to allow him to achieve impressive and dignified effects which his descendant, who is forced to manipulate a row of detached houses designed for clients clamoring for something different in a pathetic effort to assert an individuality they do not, in fact, possess, can never hope to emulate today.*

*“The second preserved sufficient of the country in the shape of grass and trees to form an agreeable contrast to the surrounding bricks and mortar and sufficient air, light, and space to render it pleasant and healthy and to facilitate the movement of traffic.*

*“By means of such simple devices as the recessed arch, the decorated fanlight and the sculpture keystone, the 18<sup>th</sup> century architect avoided monotony with skill and subtlety.”*

*Osbert Lancaster (1908-1986)*

*“A Cartoon History of Architecture” (1973)*

## John Lautner

*"The purpose of architecture is to improve human life. Create timeless, free, joyous spaces. The infinite variety of these spaces can be as varied as life itself and they must be as sensible as nature in deriving from a main idea and flowering into a beautiful entity. Sensitively conceived and executed, a finely designed and crafted space can be magical."*

*John Lautner (1911-1994)*

*quoted by Michael Webb (1937- ) in "Architecture: John Lautner" Architectural Digest, October 1995*

## Dan Kiley

*To Kiley, regular geometry lay at the heart of his landscape design. Kiley believed that geometry was an inherent part of man. It was the structure man could use to gain comprehension and create stabilization in his surroundings. He also firmly believed that man was a part of nature, rather than separate from it. Rather than copying and trying to imitate the curvilinear forms of nature, he asserted mathematical order to the landscape.*

*Dan Kiley (1912-2004)*

*discussed in "Dan Kiley" Wikipedia*

## Tage Frid

*"I do not think that all furniture designers should be craftsmen first, but I certainly am convinced that the designer should know the materials in which he is going to design. If you combine technique and knowledge of the material, you certainly should be able to make some interesting and beautiful furniture - because if you have this background, you will automatically design around the construction and not construct around the design. You will combine the two of them, as construction becomes second nature when you are designing. Many students and designers are so worried about the looks and the sculpture of the piece and later worry about how it is to be put together. I strongly believe this is the wrong approach to take when you are designing furniture.*

*Tage Frid (1915-2004)*

*"Woodworking Thoughts" Fine Woodworking #1*

## Herbert Simon

*An example of a design thinking process could have seven stages: define, research, ideate, prototype, choose, implement, and learn. Within these seven steps, problems can be framed, the right questions can be asked, more ideas can be created, and the best answers can be chosen. The steps aren't linear; they can occur simultaneously and can be repeated.*

*Herbert Simon (1916-2001)*

*"The Sciences of the Artificial" (1969) discussed in "Design Thinking" Wikipedia*

## I. M. Pei

*"The talk about modernism versus post-modernism is unimportant. It's a side issue. An individual building, the style in which it is going to be designed and built, is not that important. The important thing, really, is the community. How does it affect life?"*

*Ieoh-Ming Pei (1917-2019)*

*quoted in "I. M. Pei" Wikipedia*

## **William Pena**

*"Good buildings don't just happen. They are planned to look good and perform well, and come about when good architects and good clients join in thoughtful cooperative effort. Programming the requirements of a proposed building is the architect's first task, often the most important. Programming is problem seeking. Design is problem solving."*

*William Pena (1919-2018)*

*"Problem Seeking: An Architectural Programming Primer" 1987*

## **Bela H. Benathy**

*"Science focuses on the study of the natural world. It seeks to describe what exists. Focusing on problem finding, it studies and describes problems in its various domains. The humanities focus on understanding and discussing the human experience. In design, we focus on finding solutions and creating things and systems of value that do not yet exist."*

*"The methods of science include controlled experiments, classification, pattern recognition, analysis, and deduction. In the humanities we apply analogy, metaphor, criticism, and evaluation. In design we devise alternatives, form patterns, synthesize, use conjecture, and model solutions."*

*"Science values objectivity, rationality, and neutrality. It has concern for the truth. The humanities value subjectivity, imagination, and commitment. They have a concern for justice. Design values practicality, ingenuity, creativity, and empathy. It has concern for goodness of fit and for the impact of design on future generations."*

*Bela H. Benathy (1919-2003)*

*"Designing Social Systems in a Changing World" (1996)*

## **Ian McHarg**

*"The world is abundant, we require only a deference born of understanding to fulfill man's promise. Man is that uniquely conscious creature who can perceive and express. He must become the steward of the biosphere. To do this he must design with nature."*

*Ian L. McHarg (1920-2001)*

*"Design with Nature" (1969)*

## **Peter Blake**

*"Anyone who understands how architects and designers function creatively knows that every single design decision is influenced by dozens (if not hundreds) of complex, often quite unrelated considerations; that all these considerations or insights have impact upon the designer's brain more or less simultaneously, and in somewhat unpredictable fashion; and that the ultimate design decision is made on the basis of a series of very complex judgments, all of them arrived at more or less simultaneously (and, at times, quite irrationally), plus one or two dashes of such imponderables as taste, cultural heritage, aesthetic preference, and so on."*

*Peter Blake (1920-2006)*

*"The Amanda Apple Story" Interior Design, c1989*

## **Peter Collins**

*"There is some doubt as to whether 'form follows function' or whether 'function follows form' since, although, in general, it can be reasonably assumed that an architect's task is to construct specific spaces for the fulfillment of predetermined functions, there is plenty of historical evidence to suggest that many important social institutions have resulted from spaces already built. No better example could be found than the evolution of parliamentary systems.*

*The British system, based on the concept of legislatures in which the sovereign's government and the sovereign's opposition confront each other, originated in the fact that the earliest parliaments met in the medieval palace chapel. The French system, created concurrently with the Greek and Roman revivals, was based on the concept of legislators addressed by orators, and its environment was that of an antique theatre. In the former system the seating was designed in accordance with the liturgical requirements of a Christian church; in the latter, with the evolution of the Greek drama. Neither had anything to do with preconceived notions regarding the most effective environment for parliamentary debate, yet both have had divergent influences on constitutional procedures, thereby deeply affecting the whole theory of government."*

*Peter Collins (1920-1981)*

*"Theory of Architecture" February 13, 2015, Encyclopedia Britannica*

## **Albert Hadley**

*"The essence of interior design will always be about people and how they live. It is about the realities of what makes for an attractive, civilized, meaningful environment, not about fashion or what's 'in' or what's 'out.'*

*"The designer must be able to see - make a concentrated effort to absorb the essence of the project. Seeing is a very difficult thing to do. Most people 'look' at a lot of things but never 'see' anything. Looking is emotional; seeing is an intellectual process."*

*"To create an interior, the designer must develop a concept and stick to it."*

*"Make your home as comfortable and attractive as possible and then get on with living. There's more to life than decorating.*

*Albert Hadley (1920-2012)*

*quoted by Adam Lewis in "Albert Hadley, The Story of America's Preeminent Interior Designer" (2005),*

## **Ada Louise Huxtable**

*"Architects do not build the way accountants add up figures; through education and inclination they design from a set of strong philosophical and aesthetic convictions, a polemical position, that has the highest place in their scheme of essential beliefs."*

*Ada Louise Huxtable (1921-2013)*

*"Plastic Flowers Are Almost All Right" NY Times, October 10, 1972*

*"Beaux Arts ideals are based on prescribed and elaborate rules of formal classical design. In Beaux Arts practice, the work was judged by composition - the relationship between exterior volume and interior spaces; by 'parti' - the way in which the plan was resolved; and by 'marche' - the quality of the progression of the spaces as one imagined walking through them. Plans were usually axial and symmetrical.*

*"The state-supported Paris École des Beaux Arts consisted of schools of painting, sculpture and architecture. The architectural school instruction combined remarkable freedom with the most rigid requirements. The courses consisted of lectures at the École, and design work in the 'ateliers,' or studios. Each student proceeded, not as part of a group, but individually, at his own pace. Every stage of the way was judged by 'concours,' or competitions, in 'equisse,' or sketch, form, for the lesser ones, or as 'projets rendus,' completed sets of plans, elevations, and sections for the major evaluations. A recurring assignment was the reconstruction of ancient ruins. At the time of the concours, students worked around the clock, bringing their large drawings from ateliers to the École for the judging in hand-drawn carts, or 'charrettes.' During the last period of intensive continuous work to make the deadline, students were said to be 'en charrette,' an expression that survives for deadline pressure in architects' offices today."*

*Ada Louise Huxtable (1921-2013)*

*"Beaux Arts - the Latest Avant-Garde" NY Times, October 26, 1975*

*"Danish designers sought simple forms directly expressive of purpose. They aimed at a 'natural' vocabulary of form that would retain the 'intrinsic' value of materials - notably wood. Ethical considerations became as important as aesthetic standards; this furniture was supposed to bring a useful beauty and higher standard of living to a modern democratic society. Danish furniture never renounced its handcraft tradition. In fact, craft remained the anchor that provided suitable standards of design when other considerations were rejected. Art was always synonymous with craft and skill."*

*Ada Louise Huxtable (1921-2013)*

*"The Melancholy Fate of Danish Modern" NY Times, August 21, 1980*

*"What really doomed the most challenging aspect of modernist design was the awful reality that architecture simply could not cope with the spread and severity of social problems that accompanied the changes of the postwar world. Least of all could it cure them. And by trying to do so, with too large claims and too little understanding, it lost its credibility."*

*Ada Louise Huxtable (1921-2013)*

*"Mutations in the Modern Movement" NY Times, March 4, 1979*

*"As architecture challenges the right-angled and perpendicular, it denies everything we think instinctively about stability and structure. It defies even the appearance of gravity with free-form shapes such as those of Gehry's Bilbao Museum, or sharply-angled planes as in Daniel Libeskind's Jewish Museum in Berlin. Such buildings were previously impossible to design or build. There was no way to calculate the engineering requirements or the costs of complex surfaces and structures using new or unconventional materials without the help of computers. As a result of increased computer use in design, the line between architecture and sculpture is eroding.*

*Ada Louise Huxtable (1921-2013)*

*"Museums: Making It New" NY Review, April 22, 1999*

*"What the designer does, essentially, is to house a mechanism, creating a skin. Strictly speaking of course, form never followed function. Shapes can be sharp or smooth. There is nothing wrong with design with an attitude, or an edge. But the form that results must express both the idea and the actuality of what makes the product what it is. When possible, the aim should be to reinvent or reconfigure or reengineer to devise a better and more desirable solution."*

*Ada Louise Huxtable (1921-2013)*

*"Battling the Bulge" Wall Street Journal, December 30, 1999*

*"It is safe to say that as long as architects are possessed by a timeless obsession to build tall - a universal ambition that can make even the most modest fancy themselves masters of the universe - and developers pursue ways to wring every ounce of profit out of expensive land, the race for height will continue. To most of us, tall buildings are not engineering marvels as much as they are icons of power and progress and objects of consummate wonder. They carry an extraordinary emotional and aesthetic message, an experience the 19<sup>th</sup> century recognized and revered in nature's most awesome manifestations as 'sublime'.*

*"Inherently enormous buildings are inhumane. This has become more pronounced as the means of production and the sense of craft have been replaced by complex technologies and more formal and abstract design that emphasizes a sleek, depersonalized scalelessness. Exhilarating and alienating, promising and threatening, their ambiguity is inescapable. Right now, the sheer excitement of being able to do unprecedented things overwhelms everything else. The tall building is a gigantic instrument of market economics, but it still aspires to the sublime."*

*Ada Louise Huxtable (1921-2013)*

*"Tall, Taller, Tallest" Wall Street Journal, August 17, 2004*

*"The traditional interdependence of art, structure, and utility that has been the measure of architecture since antiquity has become boring to the public and to much of the profession. What drives design and patronage now is the 'wow' effect, which has little to do with the time-tested criteria of commodity, firmness, and delight and more to do with signature styles as publicity and marketing tools. With the help of the computer, architecture as sculpture is here to stay."*

*Ada Louise Huxtable (1921-2013)*

*"Too Much of a Good Thing" Wall Street Journal, December 8, 2005*

*"The modern movement is a story of high hopes, boundless optimism, innocent social idealism, and considerable hubris in which the artists, architects, and artisans of the world would make it a better place through a radical new kind of design. Change was necessary to reinvigorate a corrupt, exhausted, and war-weary society. The machine was to be the symbol and instrument of salvation; mechanization and standardization would serve humanity through progressive political systems. Everything would be stripped down to its functional essence and reinvented, and this would lead to an aesthetic as modern as the message was messianic. Clear out the mess. Banish the past. Design for the future. Modernism was the original extreme makeover. The union of art and utility as a moral imperative may seem quaintly obsolete, but it produced little that was superficial, much that was rational, and a great deal that was beautiful"*

*Ada Louise Huxtable (1921-2013)*

*"Modernism, in Perspective" Wall Street Journal, July 12, 2006*

## Harvey Probbler

*Probbler's most significant design breakthrough came when he was exploring approaches to seating furniture and found that "the key to salvation was in bits and pieces of plane geometry. They were meaningless alone, but when fused to conventional shapes, profoundly altered their character." These 'bits and pieces' became a line that consisted of nineteen different elements that could be assembled into any desired seating configuration. Probbler referred to the concept as a modular system, and the individual pieces as modules.*

*Harvey Probbler (1922-2003)*

*discussed in "Harvey Probbler" Wikipedia*

## Nathan Glazer

*"Architecture's practitioners and proponents saw the international style not as a style to be succeeded by others, but indeed as the end of style in architecture, the conclusion of the history of architecture as style. The last burst of decorated or ornamented architecture was eliminated in the early post-World War II period. The full program of modernism came into effect, particularly in the design of commercial office structures, the most characteristic form of buildings of the modern city. But it soon spread to public buildings, and indeed to almost all buildings except for private homes, the one major area of construction that has for the most part escaped modernist structures."*

*Nathan Glazer (1923-2019)*

*"From a Cause to a Style" (2007)*

## Charles Moore

*There is no such thing as a perfect design. However, there is a substantial difference between good and bad. There can be multiple good solutions to the same problem. A good design has integrity (wholeness). Even a master has to discard many bad ideas before finding a good one."*

*"Listen carefully to your client. Don't assume that you know what they want. You can give a client just what they want and still make an interesting and beautiful building if you use their vision as your inspiration."*

*Charles Moore (1925-1993)*

*paraphrased by Mark Simon (1946- ) quoted by Alexandra Lange "Why Charles Moore Still Matters" Metropolis, May 2014*

## Daniel Patrick Moynihan

*"The development of an official style must be avoided. Design must flow from the architectural profession, and not vice versa. Specific attention should be paid to the possibilities of incorporating qualities which reflect the regional architectural traditions of that part of the nation in which buildings are located. Federal architecture must be done in an architectural style which is distinguished and which will reflect the dignity, enterprise, vigor, and stability of the American Government."*

*Daniel Patrick Moynihan (1927-2003)*

*"Guiding Principles for Federal Architecture" (1962)*

## **Mica Ertegun**

*"I prefer it when clients take an interest in the design of their home. Only they can give their home a personality. Everybody has taste. Sometimes it's good, sometimes it's bad. If it's bad, I try to change it a little bit."*

*Mica Ertegun (1927-2022)*

*"Mica Ertegun on Classic Decorating" Elle Decor, 2013*

## **John Chris Jones**

*One of the first Design Science theorists, John Chris Jones, postulated that design is different than the arts, sciences, and mathematics in the 1970's. "The main point of difference is that of timing. Both artists and scientists operate on the physical world as it exists in the present (whether it is real or symbolic), while mathematicians operate on abstract relationships that are independent of historical time. Designers, on the other hand, are forever bound to treat as real that which exists only in an imagined future and have to specify ways in which the foreseen thing can be made to exist."*

*John Christopher Jones (1927-2022)*

*"Design Method Vol. 4" (1992), discussed and quoted in "Design Thinking" Wikipedia*

## **Jack Lenor Larsen**

*"The most important statement, more durable than the totality of the planning, the props, or the color, was the assertion that the prime concern of environmental design was how people feel in a space."*

*Jack Lenor Larsen (1927-2020)*

*quoted by Paul Makovsky "The Wit and Wisdom of Alexander Girard" Metropolis*

## **Lila Shoshkes**

*"The design concept is what influences the final decision and evaluation. It will reflect how well the designer has understood and translated the client's needs and incorporated the intangible, 'the art part', into the design. It is a measure of a design's success that its aesthetic, functional and material aspects are so utterly fused that they cannot be isolated easily."*

*Lila Shoshkes (1927-2020)*

*"Space Planning: Designing the Office Environment" (1976)*

## **Frank Gehry**

*"Computer Aided Design provides a way for me to get closer to the craft. In the past there were many layers between the rough sketch and the final building and the feeling of the design could get lost before it reached the craftsman. It feels like I've been speaking a foreign language, but now, all of a sudden, the craftsman understands me. In this case the computer is not dehumanizing; it's an interpreter."*

*Frank Gehry (1929- )*

*quoted by Karl Aspelund (c1964- ) "The Design Process" (2006)*

## Robert Sommer

*“Man will adapt to hydrocarbons in the air, detergents in the water, crime in the streets, and crowded recreational areas. Good design becomes a meaningless tautology if we consider that man will be reshaped to fit whatever environment he creates. The long-range question is not so much what sort of environment we want, but what sort of man we want.”*

Robert Sommer (1929- )

*“Personal Space: The Behavioral Basis of Design” (1969)*

*“The new design culture does not rely on self-conscious novelty nor even on the traditional design values of cohesiveness, integrity, perceptual clarity, and loyalty to materials. Without rejecting the latter, the new culture has added a super-ordinate value – suitability to the needs of the user. Good designers have always been aware of the client’s needs. The increasing complexity of society has produced so many non-user clients, such as corporate boards and government, that the humane designer needs to go beyond the client’s prescription in order to discover the needs of the actual users.*

*“The new environmentalist sees himself as an architect, landscape designer, or interior decorator not only in the sense of technical competence. He extends his operational base and philosophical justification to the people whose lives will be affected by his decisions.*

*“There can be no dichotomy between good design and usable design nor between beauty and function in architecture. To look beyond the physical structure of a building to its social consequences, to the sorts of people and activities it will contain, and to its effect upon the surrounding community is a necessary aspect of good design.”*

Robert Sommer (1929-2021)

*“Design Awareness” (1972)*

## Jules Feiffer

*“Design is important because chaos is so hard”*

Jules Feiffer (1929- )

*quoted by Felice Silverman “The Design Impulse” Interiors & Sources, September 2013*

## Dan Koburg and Jim Bagnall

*“Gym teachers and geologists, writers and truck farmers, movie makers and motorcyclists, audiophiles and elevator operators, xylophonists and sci-fi fans are all problem-solvers. Everyone is a problem solver. Some just do it better than others, by design. By generating unique and/or particularly satisfying solutions, a designer is said to behave creatively. Since problem solving is intertwined with living, you are ever embarking on a problem-solving journey of one sort or another. The more you understand design as being closely related to the life process, the better you’ll be as a creative problem-solver or designer.*

*“The design process is most easily understood as a sequence of stages or stopovers on a journey to a given destination. A full round-trip itinerary offers experience at each of those places. Once internalized through experience, design process-oriented travel involves the conscious application of incentives, intentions, decisions, actions, and evaluations.*

*"A complete systematic problem-solving journey includes a seven-stage itinerary:*

- 1. Accept/getting started - stating initial intentions, accepting the problem as a challenge, allowing the problem to become the generator of process, self-motivation.*
- 2. Analyze/gathering facts and feelings - becoming familiar with the insides and the outsides of the problem, discovering what the 'world of the problem' contains.*
- 3. Define/determining the destination and the essentials for success - determining the main issues of the problem, conceptualizing and clarifying aims, ends, and goals of problem resolution.*
- 4. Ideate/generating alternatives - identifying all possible ways of realizing the goals.*
- 5. Select/choosing from the options - comparing the destination with the best way of getting there, determining the best matches.*
- 6. Implement/taking action - giving form to the selected 'best ways', 'realizing' intentions.*
- 7. Evaluate/measuring success - reviewing the journey to determine the degree of success and its overall value, what was learned, and how can the experience be used to make future travel more meaningful and/or enjoyable?"*

*Don Koberg (1930- ) and Jim Bagnall*

*"The Universal Traveler" (1974)*

## **Donald Schon**

*"In order to formulate a design problem to be solved, the designer must 'frame' a problematic design situation: set its boundaries, select particular things and relations for attention, and impose on the situation a coherence that guides subsequent moves."*

*Donald Schon (1930-1997)*

*quoted by Nigel Cross (1942- ) "Design Thinking" (2011)*

## **Massimo Vignelli**

*"Design is an integral part of the production process. Design for design's sake is irresponsible, immoral, and totally useless. I can design without a client, but I can't design without a problem."*

*Massimo Vignelli (1931-2014)*

*quoted by Christine Pittal, "Viva Vignelli!" Connoisseur, October 1990*

*"If you can design one thing, you can design everything. If you do it right, it will last forever. Good design is visually powerful, intellectually elegant, and, above all, timeless."*

*Massimo Vignelli (1931-2014)*

*"Citazioni di Massimo Vignelli"*

*"Semantics, for me, is the search for the meaning of whatever we have to design. The first thing that I do whenever I start a new assignment in any form of design - graphic, product, exhibition, or interior - is to search for the meaning of it. That may start with research on the history of the subject to better understand the nature of the project and to find the most appropriate direction for the development of a new design. It is extremely important for a satisfactory result of any design to spend time on the search of the accurate and essential meanings, investigate their complexities, learn about their ambiguities, understand the context of use to better define the parameters within which we will have to operate."*

*“Semantics, in design, means to understand the subject in all its aspects, to relate the subject to the sender and the receiver in such a way that it makes sense to both. It means to design something that has a meaning, is not arbitrary, that has a reason for being, something in which every detail carries the meaning or has a precise purpose aimed at a precise target.”*

*“Mies van der Rohe said ‘God is in the details.’ That is the essence of syntax: the discipline that controls the proper use of grammar in the construction of phrases and the articulation of a language. The syntax of design is provided by many components in the nature of the project. In graphic design, for instance, they are the overall structure, the grid, the typefaces, the text and headlines, the illustrations, etc. The consistency of a design is provided by the appropriate relationship of the various syntactical elements of the project: how type relates to grids and images from page to page throughout the whole project. Or, how type sizes relate to each other. Or, how pictures relate to each other and how the parts relate to the whole.”*

*“We love complexity but hate complications. We like design to be forceful. We like design to be intellectually elegant. We like design to be beyond fashionable modes and temporary fads. We like design to be as timeless as possible. We despise the culture of obsolescence. We feel the moral imperative of designing things that will last for a long time.”*

*“The attention to details requires discipline. There is no room for sloppiness. Every detail is important because the end result is the sum of all the details involved in the creative process. There are no hierarchies when it comes to quality. Quality is there or it is not there, and if it is not, then we have wasted our time. That is discipline and without it there is no good design.*

*“Discipline is a set of self-imposed rules, parameters within which we operate. It is a bag of tools that allows us to design in a consistent manner from beginning to end. Discipline is also an attitude that provides us with the capacity of controlling our creative work so that it has continuity of intent throughout rather than fragmentation. Design without discipline is anarchy, an exercise in irresponsibility.”*

*“Design is one – it is not many different ones. The discipline of design is one and can be applied to many different subjects, regardless of style. Design discipline is above and beyond any style. Design is a creative process with its own rules, controlling the consistency of its output towards its objective in the most direct and expressive way.”*

*“We often talk about intellectual elegance, not to be confused with the elegance of manners and mores. For me, intellectual elegance is the sublime level of intelligence which has produced all of the masterpieces in the history of mankind. It is the elegance we find in Greek statues, in Renaissance paintings, in the sublime writings of Goethe. It is the elegance of architecture of any period, the music of all times, the clarity of science through the ages. It is the thread that guides us to the best solution to whatever we do. It is the definitive goal of our minds – the one beyond compromise. It elevates the most humble artifact to a noble stand. Intellectual elegance is also our civic consciousness, our social responsibility, our sense of decency, our way of conceiving design, our moral imperative. Again, it is not design style, but the deepest meaning and essence of design.”*

*“We are for a design that is committed to a society that demands long lasting values - a society that earns the benefits of commodities and deserves respect and integrity.*

*“We like economy of design because it avoids wasteful exercises, it respects investment and lasts longer. We like design that is clear, simple, and enduring.”*

*“Responsibility is a form of discipline. As designers, we have three levels of responsibility. One – to ourselves, the integrity of the project and all its components. Two – to the client, to solve the problem in a way that is economically sound and efficient. Three – to the public at large, the consumer, the user of the final design. In the end, a design should stand by itself, without excuses, explanations, apologies.”*

*Massimo Vignelli (1931-2014)*

*“The Vignelli Canon” (2010)*

## **Dieter Rams**

*“Good design is innovative - the possibilities for progression are not, by any means, exhausted. Technological development is always offering new opportunities for original design, but imaginative design always develops in tandem with improving technology and can never be an end in itself.*

*“Good design makes a product useful - a product is bought to be used. It has to satisfy not only functional, but also psychological and aesthetic criteria. Good design emphasizes the usefulness of a product while disregarding anything that could detract from it.*

*“Good design is aesthetic - the aesthetic quality of a product is integral to its usefulness because products are used every day and have an effect on people and their well-being. Only well-executed objects can be beautiful.*

*“Good design makes a product understandable - it clarifies the product's structure. Better still, it can make the product clearly express its function by making use of the user's intuition. At best, it is self-explanatory.*

*“Good design is unobtrusive - products fulfilling a purpose are like tools. They are neither decorative objects nor works of art. Their design should therefore be both neutral and restrained, to leave room for the user's self-expression.*

*“Good design is honest - it does not make a product appear more innovative, powerful, or valuable than it really is. It does not attempt to manipulate the consumer with promises that cannot be kept.*

*“Good design is long-lasting - it avoids being fashionable and therefore never appears antiquated. Unlike fashionable design, it lasts many years - even in today's throwaway society.*

*“Good design is thorough down to the last detail - nothing must be arbitrary or left to chance. Care and accuracy in the design process show respect towards the customer.*

*“Good design is environmentally friendly - design makes an important contribution to the preservation of the environment. It conserves resources and minimizes physical and visual pollution throughout the lifecycle of the product.*

*“Good design is as little design as possible - less, but better - because it concentrates on the essential aspects, and the products are not burdened with non-essentials. Back to purity, back to simplicity.”*

*Dieter Rams (1932- )*

*"Principles of Design" Interior Design, March 2007*

## Herman Hertzberger

*"In simple terms, you could say that building order is the unity that arises in a building when the parts taken together determine the whole, and conversely, when the separate parts derive from that whole in an equally logical way. The unity that results from design that consistently employs this reciprocity - parts determining the whole and determined by it - may in a sense be regarded as a structure. The material - the information - is deliberately chosen, adapted to suit the requirements of the task in question, and, in principle, the solutions of the various design situations are permutations of, or at least directly derived from, one another. As a result, there will be a distinct, one could say family, relationship between the various parts."*

*"Every well-designed building has a consistent idea with a distinct thematic unity behind it, a unity of vocabulary, material, and building method. The essential thing is design based on a consistent strategy. Starting out from the components, you have to go through the whole building again and again to check whether all the extremities can be brought together under the denominator of a common theme. That exploration in turn leads to adjustment of the theme."*

Herman Hertzberger (1932- )

*"Lessons for Students in Architecture" (1991)*

## Ivan Chermayeff

*"Good design, at least part of the time, includes the criteria of being direct in relation to the problem at hand - not obscure, trendy, or stylish. A new language, visual or verbal, must be couched in a language that is already understood."*

Ivan Chermayeff (1932-2017)

*quoted by Peg Faimon and John Weigand "The Nature of Design" (2004)*

## Richard Rogers

*"Today we know that design based on linear reasoning must be superseded by an open-ended architecture of overlapping systems. This 'systems' approach allows us to appreciate the world as an indivisible whole; we are, in architecture as in other fields, approaching a holistic ecological view of the globe and the way we live on it."*

Richard Rogers (1933-2021)

*"Architecture: A Modern View" (1991) quoted by Richard Buchanan "Wicked Problems in Design Thinking" Design Issues, 1992*

## Michael Graves

*"Everything that I have designed from when I started in the late '60's and early '70's to today is man-centered, is centered around the human body and our thoughts and our physicality, and the way we speak to each other face-to-face - all of those very simple kinds of things. It isn't that it's not about architecture as a discipline. I think that's what architecture as a discipline is."*

Michael Graves (1934-2015)

*quoted by John Czarnecki "Reflecting on the Legacy of a Legend of Design" Contract, April 2015*

## **Carl Sagan**

*"The truth may be puzzling. It may take some work to grapple with. It may be counterintuitive. It may contradict deeply held prejudices. It may not be consonant with what we desperately want to be true. But our preferences do not determine what's true. We have a method, and that method helps us to reach not absolute truth, only asymptotic approaches to the truth - never there, just closer and closer, always finding vast new oceans of undiscovered possibilities. Cleverly designed experiments are the key."*

Carl Sagan (1934-1996)

*"Wonder and Skepticism" Skeptical Inquirer, February, 1995*

## **Michael Brill**

*"I consider interiors to be all the indoor and outdoor rooms we shape for use. Through my research and that of others and through an examined practice, I've come to know that our designs for interiors are primary shapers of behavior and character, primary affecters of our individual and group creativity, and primary ways by which we tell ourselves important stories about who we are and what we value. I believe this to be far more true for interiors than for most architecture, for much architecture that gets published is increasingly silly and irrelevant to most people's lives, both pragmatically and spiritually.*

*"Since research shows that the design of the workplace affects productivity and quality of work-life for all job levels, the office is a tool. Given organizational attitudes toward optimizing resources, people should get the tools they need to do their best work, and not the status-based standard for that job level."*

Michael Brill (1936-2002)

*"Toward and Aesthetics of Freedom" Interiors, c1995*

## **Spiro Kostof**

*"Design is the tool that, skillfully used, sorts out the messes that we make of the physical world, or at least keeps them within bounds.*

*"In the realm of design, the final measure of success is not in numbers, not in shapes. It is in the rituals our designs play host to - which means in us. We are the ones who fill buildings and roads with life, and so give value to these abstractions of architects and engineers. In the ways we use what is designed and built, in the demands we make and the changes we bring about, we are all designers of America. On all of us falls the blame for what is ugly in our surroundings, what is inhumane and derelict. To all of us belongs the credit for the beauty we fashion, and the love, the excitement, the grace we allow it to contain."*

*"The business of designing our environment is of course never finished. Every generation must remake in its turn the arrangements of its time. Wisdom resides in making sure that our handiwork respects what it inherited, that it matches verve with decency, and that it fortifies the best impulses in the long pageant of creating America by design."*

Spiro Kostof (1936-1991)

*"America by Design" (1987)*

### **Bill Valentine**

*"Good design is a simple idea, elegantly executed and inspiring, with social significance and in harmony with the environment."*

*Bill Valentine (1937- )  
Contract, October 2010*

### **Moshe Safdie**

*"We have very few alternatives to the right solution. A solution is a process of moving towards the truth, which is the complete opposite of freedom from rules." While another architect might experience the design process as a search for inspiration, Safdie experiences it as a search for constraint.*

*Moshe Safdie (1938- )  
quoted and discussed by Larissa MacFarquhar "Truth in Architecture" New Yorker,  
January 20, 2003*

### **J. Robert Hillier**

*"We feel that every project grows out of a set of forces at work. And those forces are everything from the client's needs, to gravity, to the personality of the site, to the budget. I think the best designers recognize every one of the forces and prioritize them, and then they can put them in complete balance in the end product. You look at all the problems at work and find the one solution that puts them all to rest. That is the way I think one should approach design because then you're serving nature, you're serving the client, you're serving society."*

*J. Robert Hillier (1938- )  
interviewed by Michael Reis (1970-2014) Building Stone, 2000*

### **Gaetano Pesce**

*"Designers have to answer people's needs, create something useful, give joy and happiness."*

*Gaetano Pesce (1939- )  
quoted by Murray Moss "Office Options, Oval and Otherwise" Interior Design, May  
2017*

### **John Makepeace**

*"Design is a conversational activity, in which the designer and maker understand the client's needs and are responsive to them. Every object then becomes a statement about the relationship between client and designer."*

*John Makepeace (1939- )  
quoted by Mark McCauley "Crossroads: Furniture Design in the 20<sup>th</sup> Century" FFI,  
March 2000*

### **Gary Whitney**

*In 1986 Interiors magazine convened a two-day think tank in Houston, inviting a group of visionaries, designers, and industry executives to consider the future of the office and of corporate workstyles. 'High-tech and high-touch' dominated the conversation. It was an intellectual, highly theoretical confab. How smart we all felt, to be part of this high-toned discussion about leading people to the promised land!*

*Midway through the second day, out of the blue, Gary Whitney - a Houston-based designer who has always been ahead of the curve - suggested that we all drive to his child's kindergarten and watch four- and five-year-olds interact. Watch kids at play! What was he thinking of? Looking back, I know he was thinking of the stuff kindergarten kids do naturally. Teamwork, sharing information and work tools, communicating without barriers, solving a problem and moving on to the next one, exemplifying 'high-touch' at its finest and most productive. And paper all over the place.*

Gary Whitney (c1940- )

*discussed by Dennis M. Cahill "The Office of the Future, Again" Interiors, June 1996*

## **Nigel Cross**

*"The 'Aha! Moment' is the moment where there is a sudden clear forward path. It is the point in the cycle where synthesis and divergent thinking, analysis and convergent thinking, and the nature of the problem all come together and an appropriate resolution has been captured. Prior to this point, the process seems nebulous, hazy, and inexact. At this point, the path forward is so obvious that in retrospect it seems odd that it took so long to recognize it. After this point, the focus becomes more and more clear as the final product is constructed.*

*"The Aha! Moment is usually described as a gut feeling. As designers move from novice to expert in their field, the exact point where the Aha! Moment occurs is increasingly recognizable. This happens through the practice of actual doing and the reflection upon their personal design process."*

Nigel Cross (1942- )

*"Designerly Ways of Knowing" (2006)*

*"Human beings have a long history of design thinking, as evidenced in the artifacts of previous civilizations and in the continuing traditions of vernacular design and traditional craft work. Everything we have around us has been designed. Anything that isn't a simple, untouched piece of nature has been designed by someone. The quality of that design effort therefore profoundly affects our quality of life. The ability of designers to produce effective, efficient, imaginative, and stimulating designs is therefore important to all of us."*

*"In traditional craft-based societies the conception or 'designing' of artefacts is not really separate from making them; there is usually no prior activity of drawing or modeling before the activity of making the artifact. In modern industrial societies, however, the activities of designing and of making artefacts are usually quite separate."*

*"Clients want designers to transcend the obvious and the mundane, and to produce proposals which are exciting and stimulating as well as merely practical. What this means is that designing is not a search for the optimum solution to the given problem, but that it is an exploratory process. The creative designer interprets the design brief not as a specification for a solution, but as a starting point for a journey of exploration; the designer sets off to discover something new, rather than to reach somewhere already known, or to return with yet another example of the already familiar."*

*“The concept of ‘intuition’ is a convenient, shorthand word for what really happens in design thinking. The more useful concept that has been used by design researchers in explaining the reasoning processes of designers is that design thinking is abductive: a type of reasoning differing from the more familiar concepts of inductive and deductive reasoning, but which is the necessary logic of design. It is this particular logic of design that provides the means to shift and transfer thought between the required purpose or function of some activity and appropriate forms for an object to satisfy the purpose.”*

*“Designers recognize that problems and solutions in design are closely interwoven; that ‘the solution’ is not always a straightforward answer to ‘the problem.’ A solution may be something that not only the client, but also the designer ‘never dreamed he wanted.’”*

*“The uncertainty of design is both the frustration and the joy that designers get from their activity; they have learned to live with the fact that design proposals may remain ambiguous and uncertain until quite late in the process. Designers will generate early tentative solutions. But also leave many options open for as long as possible; they are prepared to regard solution concepts as temporarily imprecise and often inconclusive.”*

*“Three key strategic aspects of design thinking appear to be common: 1) taking a broad ‘systems approach’ to the problem, rather than accepting narrow problem criteria; 2) ‘framing’ the problem in a distinctive and sometimes rather personal way; and 3) designing from ‘first principles.’”*

*“Creativity is often stimulated when there is a conflict to resolve, and it may be that successful designers recognize this and seek the stimulus of conflict.”*

*“Teamwork is of considerable importance in normal professional design activity, and has become of even greater importance as design becomes a more integrated activity involving collaboration among many different professions.”*

*“It is quite normal for designers to become emotionally involved with their ideas; their design concepts are not merely abstract ideas, but personal insights that emerge as a result of considerable cognitive effort.”*

*“In a design project, it is often not at all clear what ‘the problem’ is; it may have been only loosely defined, and everyone involved in the project may know that goals may be redefined during the project. In design, ‘problems’ are often defined only in relation to ideas for their ‘solutions,’ and designers do not typically proceed by first attempting to define their problem rigorously.”*

*“In order to cope with the uncertainty of dealing with ill-defined problems, a designer has to have the self-confidence to define, redefine and change the problem as given, in the light of solutions that emerge in the very process of designing. People who prefer the certainty of structured, well-defined problems will never appreciate the delight of being a designer.”*

*Nigel Cross (1942- )*

*“Design Thinking” (2011)*

## Henry Petroski

*"All designs must involve trade-offs, if not in materials, then in function; if not in cost, then in fashion; if not in quality, then in shape; if not in this, then in that. The design process is thus often labyrinthine, and successive compromises in response to specific constraints close off and open up different choice points later in the process. Indeed, even as designers 'perfect' their creations, they usually both improve (in some ways) and impair (in others) what came before."*

Henry Petroski (1942- )

*"Small Things Considered"* (2003)

*You could prevent failure, Petroski writes, but only if you could "freeze technology at its present stage. Everything made subsequently would have to be designed and produced exactly like whatever had been demonstrated to have been successful." Instead, "endless improvement is what engineering is all about," even if that inevitably leads to some failure (from which we then hope to learn). And in this enduring chain of progress, "good war stories are never obsolete."*

Henry Petroski (1942- )

*"To Forgive Design: Understanding Failure"* (2012) reviewed by Bill McKibben (1960- )

*"Collapse and Crash"* NY Review, June 20, 2013

## Tod Williams and Billie Tsien

*"In the buildings we design, we struggle to achieve a unity and sense of wholeness that can come from a balance of individual gestures within a larger and more singular container. Perhaps naively, but in earnest, we try to start each project with a blank slate. The design is incremental - small steps that are made in response to the site, the client, the builder, and our own intuition. We try to fight through what we have learned, toward the freedom found in innocence. The design is a slow and often uneven accumulation of stitches, that are often ripped out part way through while we struggle to make clear, or to understand what the pattern and organization might be, even as we avoid as much as possible knowing what the final image might be."*

Tod Williams (1943- ) and Billie Tsien (1949- )

*"On Slowness"* May 27, 2015

## Roger Scruton

*"There is an aesthetic minimalism exemplified by laying the table, tidying up your room, designing a website, which seems at first sight quite remote from the aesthetic heroism of Bach's 'Well-Tempered Clavier.' Nevertheless, you want the table, room, or the website to look right, and looking right matters in the way that beauty generally matters – not by pleasing the eye only, but by conveying meanings and values which have weight for you and which you are consciously putting on display."*

Roger Scruton (1944-2020)

*"Beauty: A Very Short Introduction"* (2011)

## **Rem Koolhaas**

*A number of years ago, I asked Koolhaas in an interview if he sought to instill beauty into a particular design. The word made him squirm - beauty, he insisted, was merely a by-product.*

*Rem Koolhaas (1944- )*

*discussed by Cathleen McGuigan "Beauty in Small Packages" Architectural Record, July 2015*

## **Gordon Murray**

*In 1987, Gordon Murray moved to the McLaren Formula One team as technical director. The constant pressure during the racing season breeds a fervor to succeed that never stops, Gordon says: "You gotta go quicker, gotta go quicker." The pressure to come up with something new becomes intense.*

*The situation can only be resolved by a new car design. For Gordon Murray it would often mean trying a "step forward," a radical new concept. In the midst of the pressure, the fervor, the panic, he "used to get breakthroughs, I mean I used to get like suddenly a mental block lifted." These breakthroughs would come as a sudden illumination: "I know it's a cliché, but I did have a lot of good ideas in the bath. I really did." The illuminations came, in classical form, after long periods of preoccupation with the problem, and after what Murray emphasizes as the most important factor in innovative design, of reconsidering the problem situation from first principles.*

*Gordon Murray (1946- )*

*discussed and quoted by Nigel Cross (1942- ) "Design Thinking" (2011)*

## **Susan J. Slotkis**

*"Although we all have individual tastes or preferences, depending on our experiences and exposure, there is general consensus regarding what is pleasing to the senses and what is considered a positive experience. Fashion may come and go, but the essence of what makes for good design remains.*

*"Basic building blocks of design that we call elements include line, pattern, texture, scale, light, and color. Principles are the rules or guidelines that govern the use of elements within a composition and include proportion, balance, rhythm, contrast, emphasis, and harmony."*

*Susan J. Slotkis (1946- )*

*"Foundations of Interior Design" (2006)*

## **Thomas Hine**

*"In a sense, office design is the enemy of corporate culture. Culture evolves; design is imposed. Culture is tacit; design is explicit. Culture values stability; design is radical. Culture is a complex transaction among large numbers of people; designers may consult with workers but, in the end, design is dictatorial. Culture generates deep and arcane knowledge; design wipes out wisdom and forces everyone to start over."*

*Thomas Hine (1947- )*

*"Office Intrigue: The Interior Life of Corporate Culture" in Donald Albrecht and Chrysanthe B. Broikes "On the Job: Design for the American Office" (2000)*

## **Mike Dunbar**

*"How can one successfully design furniture without a working knowledge of what has been done before? The old guys obviously had some tricks to teach us. For example, they had systems for ordering and proportioning furniture that date back to the classical Greeks and that will remain useful until evolution changes the way the human brain works. Some of us might rediscover these methods but only after a great deal of trial and error that could easily be avoided by a little reading and a few trips to some museum. Seems to me a good investment of time.*

*"Conversely, these fellows tried many things that failed. Once something had been determined a failure, stylistically or structurally, it was discarded and not passed on. Therefore, if something was not done in the past, warning bells should go off in our heads, for bad design in the past is still bad design today. While it is possible that some new approaches to design can still be discovered (especially when using modern materials), the greater risk is in creating square, hexagonal and triangular wheels. In other words, as in geopolitics, woodworkers who do not know history are doomed to repeat its mistakes."*

*Mike Dunbar (1947- )*

*"Learning from Antiques" Fine Woodworking, 1999*

## **Michael Vanderbyl**

*"I'm a firm believer that everything communicates. Every touch point that a client has, whether it's online, in a space, or even a product - or the tag that hangs on a product - all those things are important. Design is about what it's saying, rather than a style or a trend. Good design answers the question before it is asked."*

*Michael Vanderbyl (1947- )*

*quoted by Lydia Lee "Legend: Michael Vanderbyl" Contract Design, January 2017*

## **Adrian Forty**

*"The use of imagery to make products look 'ahead of their time' has been a recurrent and at times thoroughly monotonous feature of 20<sup>th</sup> century design. The reasons are not hard to see for the appeal is exactly the same as that on which all millenarian religions have been based. The attractions of a future in which all present ills will have been eliminated are overwhelming; furthermore, it is emotionally very much easier to live in the past or the future than it is to live in the present. The discovery by 20<sup>th</sup> century manufacturers that one of the most effective ways to stimulate the desire for commodities was to suggest that they were part of a clean, harmonious, and comfortable way of life would have come as no surprise to any 19<sup>th</sup> century revivalist preacher. The success of design in using the imagery of science and technology to convey a vision of the future free from discomfort and anxiety has been one of the stranger phenomena of 20<sup>th</sup> century society."*

*Adrian Forty (1948- )*

*"Objects of Desire" (1986)*

### **Charles III**

*“Just as the connection with nature reminds us of matters above and beyond ourselves, and of the need for reverence, so the city – rightly conceived – can remind us both of our dependence upon, and our responsibility for others, and for the greater good through the simple business of good manners, courtesy, and consideration for others.”*

*“Traditional design, in truth, is not about style, it is about learning from the best of what has gone before. It is something infinitely varied, infinitely adaptable, infinitely changing – a language, that is based on coherent grammar, allowing infinite flexibility and creative within a discipline.”*

Charles III of the United Kingdom (1948- )

*speech accepting the National Building Museum’s Vincent Scully Prize, Washington, November 3, 2005*

### **Philippe Starck**

*“The problem is not to produce more so that you can sell more. The fundamental question is that of the product’s right to exist. And it is the designer’s right and duty, in the first place, to question the legitimacy of the product. Depending on what answer he comes up with, one of the most positive things a designer can do is to refuse to do anything.”*

Philippe Starck (1949- )

*“Starck” (2000)*

### **Paul Goldberger**

*“One test of good design - and this is, of course, a subjective test, for there is no way to quantify this sort of thing - is how self-conscious an object is. A well-designed object never appears forced or strained; it does not seem to be trying too hard, no matter how complex it is or how complicated the process of making it was.”*

Paul Goldberger (1950- )

*“On the Rise” (1983)*

### **Kimberly Elam**

*“Too often as a design professional and educator I have seen excellent conceptual ideas suffer during the process of realization, in large part because the designer did not understand the visual principles of geometric composition. These principles include an understanding of classic proportioning systems such as the Golden Section and root rectangles as well as ratios and proportion, interrelationships of form and regulating lines.*

*“Within the context of the man-made environment and the natural world there is a documented human preference for Golden Section proportions throughout recorded history. Some of the ancient evidence of the use of the Golden Section rectangle, with a proportion of 1:1.618, is documented in the architecture of Stonehenge built in the 20<sup>th</sup> to 16<sup>th</sup> centuries B.C. Further documented evidence is found in the writing, art, and architecture of the ancient Greeks in the 5<sup>th</sup> century B.C. Later Renaissance artists and architects also studied, documented, and employed Golden Section proportions in remarkable works of sculpture, painting, and architecture. In addition to man-made works, Golden Section proportions can also be found in the natural world through human proportions and the growth patterns of many plants, animals, and insects.”*

Kimberly Elam (1951- )

*“Geometry of Design” (2001)*

## **Claudia Kotchka**

*"How do designers think? There are three keys to it. First, designers are very empathetic. Design is always for somebody else, so if you're designing a product, you start out by getting inside of the head of the user, and determining what they would want or need. The user doesn't usually tell you what they want because they can't easily describe what they can't see or imagine. So, designers have to figure this out by watching, listening, and relating to the user. From a business perspective, if you're trying to structure an organization, for example, it's critical to have empathy for who is going to be working in the organization and not just focus on what the organization is trying to do.*

*"Designers always ask, 'Are we solving the right problem?' If you hand designers a problem, they never just take it and solve it. They always question it. And that comes from empathy - from really understanding the user. It's not uncommon for them to come back having reframed the problem, often with a richer and broader context.*

*"Second, designers problem-solve holistically, not in a linear fashion. While the scientific method for problem solving uses problem-focused strategies and analysis, designers use solution-focused strategies and synthesis. They start with a whole solution rather than break it down into parts.*

*"That brings me to the next key, which is prototyping. Designers start with a variety of possible solutions, prototype them, get feedback, revisit the problem, and evolve solutions. The process is a continuous loop until they find a solution that works. Often, when business people work on a problem, they spend a long time studying it, trying to identify the best solution, then rolling it out, rather than using this iterative process of building, testing, and evolving."*

*Claudia Kotchka (1951- )*

*quoted by C. Thomas Mitchell "Design Thinking: From the Tactical to the Strategic"*

## **William McDonough**

*"A design that involves ecological intelligence but not aesthetic intelligence hasn't understood one of the most fundamental characteristics of nature. Any child can tell you that nature is inherently beautiful. Or as they say in Italy, when looking at a beautiful piece of stone, 'God never had a bad day.'"*

*William McDonough (1951- )*

*Interiors magazine, June, 1999*

*"If you look at a tree and think of it as a design assignment, it would be like asking you to make something that makes oxygen, sequesters carbon, fixes nitrogen, distills water, provides habitat for hundreds of species, accrues solar energy's fuel, makes complex sugars and food, changes colors with the seasons, creates microclimates, and self-replicates."*

*William McDonough (1951- )*

*"William McDonough: Godfather of Green" WNYC Studio 360, March 18, 2008*

### **Steve Thomas**

*"The reason to make sustainable buildings is that they're less expensive, they're designed better, and they're healthier. I used to get asked all the time, 'Doesn't it cost more to build green?' The answer is that it depends on what accounting system you use. If you build it well according to all the energy efficient systems, the cost of the building over its life span is going to be lower than if it is not built to those standards.*

*Steve Thomas (1952- )*

*interviewed by Aaron Fagan "Steve Thomas, Navigator" Fine Homebuilding, June 2015*

### **Arthur Lubow**

*"For architects, computer-aided modeling is more than a new tool - it creates a whole new way of thinking about design, in which structures grow with an organic responsiveness to form and function."*

*Arthur Lubow (1952- )*

*"How Architecture Rediscovered the Future" NY Times Magazine, May 18, 2003*

### **Louis Menand**

*"Attention to design in American mass-market manufacturing began in the 1920's, led by men like Norman Bel Geddes, Henry Dreyfus, Walter Dorwin Teague, and Raymond Loewy.*

*"Investment in product design might seem a luxury to be indulged in when sales are strong. But the design revolution began when the market for consumer goods was glutted, in the mid-1920's, and it flourished during a period of weak demand in the 1930's. And this is because one purpose of product design is to stimulate demand by inducing consumers to believe they need to swap out their refrigerator or pencil sharpener before its shelf life has expired in order to get the 'newer' model, even if what is new is only the envelope. It is getting people to want what they don't need."*

*Louis Menand (1952- )*

*"The Free World" (2021)*

### **Lucille Tenazas**

*"As a designer, you should never lose sight of the fact that you are solving somebody's problem. At the same time, you should solve your own as well."*

*Lucille Tenazas (1953- )*

*quoted by Peg Faimon and John Weigand "The Nature of Design" (2004)*

### **Wallace E. Cunningham**

*"The most common mistake is trying to express too many ideas in a single solution. Design should appear effortless and natural. Focus and simplify."*

*Wallace E. Cunningham (1954- )*

*Architectural Digest, January, 2007*

## Peter M. Miller

*"What is design thinking? It is an approach to problem solving based on a few easy-to-grasp principles that sound obvious: show don't tell, focus on human values, craft clarity, embrace experimentation, be mindful of process, have a bias toward action, and use radical collaboration.*

*"These seven points reduce to five modes - empathize, define, ideate, prototype, test - and three headings: hear, create, deliver. That may sound corporate and even simplistic, but design thinking has been used to tackle issues like improving access to economic resources in Mongolia, water storage and transportation in India, and elementary and secondary education and community building in low-income neighborhoods in the United States."*

*Peter N. Miller (1954- )*

*"Is 'Design Thinking' the New Liberal Art?" Chronicle of Higher Education, March 26, 2015*

## David Gelernter

*Gelernter expresses sympathy for the graduate students at his new seminar on software design at Yale. The students are flummoxed, he reports, by their professor's extensive discussion of the so-called 'strainer arches' at Wells Cathedral in Somerset, England. Wrought from massive stone blocks and installed nearly 700 years ago to prevent the church from collapsing, these arches are as strong as steel - and as lovely as butterfly wings. His reason for dwelling on the subject, he explains, is that all truly great designs are beautiful as well as functional. "I try to tell them, if you're going to do anything good in software, it will be beautiful."*

*"Go back to that Gothic cathedral for a moment. How does it work its effects on the people who enter? In its scale and design, its vast weight and fortifying inspiration, its dark vaults and diffuse lights, in the ancient stories signaled through episodes of glass and carving, the church speaks to the mind of the engineer as well as the emotions of the pilgrim. The building can be measured and analyzed. But it is also felt. And how it feels depends on the time of day, the mental state of the visitor, the depth of the silence or the rumble of the organ. It smells of incense and age. It soars and it terrifies."*

*David Gelernter (1955- )*

*discussed and quoted by David Von Drehle (1961- ) "Encounters with the Archgenius" Time, March 7, 2016*

## Steve Jobs

*"I decided to take a calligraphy class. I learned about serif and sans-serif typefaces, about varying the spacing between different letter combinations, about what makes typography great. Artistically subtle in a way science can't capture. None of this had any hope of practical application in my life. But ten years later when we were designing the first Macintosh computer, it all came back to me. And we designed it all into the computer. It was the first computer with beautiful typography. If I had never dropped into that single course in college, the Mac would never have multiple typefaces of proportionally spaced fonts. And since Windows just copied the Mac, its likely no computer would have them."*

*Steve Jobs (1955-2011)*

*commencement speech, Stanford University, 2005*

## Cathy Horyn

*"The key distinction in a couture garment is that nearly everything is made by hand. Why? Because you have more control in crafting exactly what the designer wants, and also because cutting and sewing clothes by hand gives a 'roundness' that contrasts the flatness of machine-made clothes. A skirt with volume, for example, looks that way because of hand techniques."*

Cathy Horyn (1956- )

"Stitch Craft" New York, July 13, 2015

## George R. Walker

*"Design is the link in the chain that makes the complete artisan. It unites imagination and skill into something greater, and it takes you places skills alone would never find, and skill spurs imagination to scale heights beyond your present reach."*

George R. Walker (c1957- )

"Why Design" Popular Woodworking, December, 2011

*"Our ancestors long ago learned how to exploit the useful properties of wood. They knew the toughness of elm made a wagon wheel hub that could take a beating, and that the elasticity of English yew could lend its power to an archer's bow."*

*"Although dramatic figured wood can make a profound statement, it cannot make up for poor underlying design."*

*"One important maxim in design is that, anytime we pair two different things, the goal is always that each will compliment and bring out the best in the other. Together the pairing results in something more than just the sum of the two."*

George R. Walker (c1957- )

"Killer Wood" Popular Woodworking, April 2015

*"In my memory, I can still run my hands over the curved contours and worn places on that old farm table and chairs. It's a powerful connection and if there is anything magic about design, it's about making connections. Often the most powerful connections are things hard to design. Compelling designs often convey vigor, strength, nature, youth, surprise, or delight. A thoughtfully designed chair can recall feelings of warmth, safety, friends, and health. How does a design do even one of these things? There are a million answers to that question, but the short version is to engage multiple senses."*

George R. Walker (c1957- )

"Secrets of the Cyma Curve" Popular Woodworking, June 2015

*"The whole idea of design is to take steps toward a vision and bring the elements into sharper detail until it is all clear. I divide the design journey into three broad stages – define, explore, refine. The define stage is when we establish the overall concept and requirements. The explore stage is about playing with the many possibilities that might fit inside the envelope we've defined. Refining a design is taking our composition and making it sing."*

George R. Walker (c1957- )

"Chasing a Vision" Popular Woodworking

### **Clement Mok**

*"Design is not rocket science. It's social science - the science of understanding people's needs and their unique relationship with art, literature, history, music, work, philosophy, community, technology, and psychology."*

*Clement Mok (1958- )*

*quoted by Peg Faimon and John Weigand "The Nature of Design" (2004)*

### **Michael Shanks**

*"Design thinking needs to be seen as necessarily archeological and represents what prior generations called 'the liberal arts' – the belief that knowledge from and about the past is important for living well in the future."*

*Michael Shanks (1959- )*

*quoted by Peter N. Miller (1954- ) "Is 'Design Thinking' the New Liberal Art?" Chronicle of Higher Education, March 26, 2015*

### **Stefan Sielaff**

*"When you look at classic cars, they are very simple. Simplicity in design is the most difficult thing to achieve – it's very easy to overdo things, especially when it comes to luxury."*

*Stefan Sielaff (1962- )*

*quoted by Mikki Brammer "Enterprise: A Hand in Tradition" Metropolis March 2017*

### **Paola Antonelli**

*"Apple's design thoughtfulness is a sign of respect. Elegance in objects is everybody's right, and it shouldn't cost more than ugliness."*

*Paola Antonelli (1963- )*

*quoted by Ian Parker "The Shape of Things to Come" New Yorker, February 23, 2015*

### **Peg Faimon and John Weigand**

*"Design may be defined as to conceive and plan out in the mind; to have as a purpose; to devise for a specific function or problem; an underlying scheme that governs functioning, developing or unfolding."*

*"Carefully consider cultural readings of design. Design has a communicative power which can exist only in a cultural context, because signals and signs transmit information in a predetermined and learned code."*

*"Good design evolves through an iterative process in which solutions are tested against the project requirements, then refined and retested, eventually resulting in a final process."*

*Peg Faimon (c1963- ) and John Weigand*

*"The Nature of Design" (2004)*

## **Karl Asplund**

*“Designing, regardless of what is being designed, has a clearly definable process. Apparel, artwork, aircraft, book covers, film sets, tea sets, and web sites all follow a remarkably well-delineated path in their creation. The process of design can be broken down into stages, each of which contains its own set of goals. By following a path that arrives at each stage in turn, a project’s development becomes clearer, easier to navigate and more assured. Moreover, focusing on fulfilling the needs of each stage before moving on to the next allows the project to meet its goals and makes revising it much easier.*

*“The seven stages of design are inspiration, identification, conceptualization, exploration and refinement, definition and modeling, communication, and production.*

*“A design is a plan of action, created in response to a situation or problem that needs solving. This plan often needs to be laid out to be clearly understood by a viewer. Designing is about forming ideas that will lead to an end result. Designing is a journey that has a number of stops and detours along the way.*

*“Inspiration can take countless guises and exist in many places. A poet’s inspiration may also serve to inspire a dancer, painter, sculptor, or designer. No matter what form it takes, inspiration is an energy that drives people to be creative and infuses their creations with life.*

*“It is possible to view the entire design process as one large game. Play involves rules and each design project requires a new set of rules or at least a modification of the last set of rules.*

*“All too often designers lose themselves in research for their projects. Admittedly it is difficult to avoid reading one more book, trying one more experiment, calculating a curvature to a greater degree, or going back to the museum if there is a chance that a problem will be solved. Perseverance certainly pays off and your umpteenth visit to the library may yield a spectacular find. Sometime the initial research is a lot of fun and you can fool yourself (and others) into thinking you are doing something essential when you actually are avoiding making decisions about material you already have. Call it creative procrastination, if you will.”*

*“We must be aware of the processes involved in the manufacturing of our designs. However, we must not be so consumed with manufacturing issues that we are unable to experiment with our ideas. Working within constraints and using them to create something new is immensely satisfying. For centuries architects and builders have used the quirks of materials and construction to create rhythms and textures; the 20<sup>th</sup> century took this to new extremes. The functionalist tendency took hold everywhere, allowing apparel designers to use seams and fasteners as visual elements and architects to highlight structural components and raw textures.”*

*“Your responsibility to your audience is to make certain that they do get the message. You must present your designs clearly and without ambiguity. If there is anything unclear about your message, the reception will be likewise unclear and your audience will be confused.”*

*Karl Asplund (c1964- )*

*“The Design Process” (2006)*

## **Anurag Nema**

*"Overdesigning - doing too much without a solid idea - just screws things up."*

*"I view constraints and challenges as opportunities. They give structure and relevancy to designs."*

*"Advice to students: Delay judgment. Take an idea and push it. Develop it first and then sit back and decide whether it's relevant. More often than not you will find that even simple ideas thoughtfully considered can be inspiring designs."*

*Anurag Nema (c1965- )*

*"Anurag's Viewpoint" Contract, November 12, 2010*

## **Natalia Ilyin**

*"If there is one single thing that our design language was created to eradicate, it is passion. Passion is not enthusiasm. It is not love. It is not enjoyment, and it is not flow. Passion is an unstoppable overflowing of emotion that destroys in its satisfaction, that torpedoes lives and marriages, that shoots husbands or coworkers or strangers in rage. It is not the positive team-building thing your supervisor would have you believe. Passion causes wars and brutal killings and divorces, and has astronauts wearing Depends and the headmistresses of girls' schools going to jail, and gets husbands run over in parking lots. To say a bunch of software engineers or graphic designers are passionate about their work is to try to interject sex and confusion and addiction and desire into a kind of work that is essentially asexual, organized, left brain, and sober. Focus is one thing. Passion is another."*

*Natalia Ilyin (c1965- )*

*"Enough with It!" Metropolis, May 2007*

## **John Maeda**

*In this new era, smart corporate leaders are embracing the idea that design can be a crucial differentiator. Only a decade ago, senior business executives tended to dismiss design as a second-tier function – a matter of aesthetics or corporate image best left to the folks in marketing or public relations. No more. Today design is widely acknowledged as a C-suite concern and a key element of corporate strategy.*

*Designers' move to the business mainstream has sparked a broad debate about who designers are and what they do. Silicon Valley design guru John Maeda distinguishes between three categories: 'Classical' designers, who create physical objects or products for a specific group of people (think architects as well as industrial, furniture and graphic designers); 'commercial' designers who innovate by seeking deep insights into how customers interact with products and services (think teams of researchers huddled around white-boards and mosaics of brightly-colored Post-It notes); and 'computational' designers, who use programming skills and data to satisfy millions or even billions of users instantaneously (think tech firms like Amazon and Facebook).*

*John Maeda (1966- )*

*discussed by Clay Chandler "The Meaning of Design" Time, March 12, 2018*

## Jan Boelen

*"Design today has become a form of enquiry, power, and agency. With it, the role of any event that seeks to represent and disseminate design has also fundamentally changed. We have to look beyond the object; question the commissioner's motivation and engage in conversation about the object's necessity, its consequences, and the impact it has on society.*

*"Design has an integral social aspect and the designed object should not be disconnected from its relationship with the user and the impact on people's everyday life. Design is advancing into an experimental collaborative territory where it is employed and implemented as a tool to question and transform ideas about industrial production, public and private space, and pre-established systems and networks. The materialized object is still relevant as a tool, as a solution, as an agent or provocateur, as a Trojan horse, as value and as metaphor, to make us aware of a situation, and to develop strategies and tactics to change systems and the powers that occupy a system. It's no longer the object itself where design discourse take place, and consequently this shift asks for a repositioning of design criticism."*

*Jan Boelen (1967- )*

*Design Academy Eindhoven, Metropolis, July, 2014*

## Jonathan Ive

*"We have always thought about design as being so much more than just the way something looks. It's the whole thing: the way something works on so many different levels. Ultimately, of course, design defines so much of our experience.*

*"I think there is a profound and enduring beauty in simplicity; in clarity, in efficiency. True simplicity is derived from so much more than just the absence of clutter and ornamentation. It's about bringing order to complexity."*

*Jonathan Ive (1967- )*

*discussing iOS 7 software, 2013*

*To watch him with his workmates in the holy of holies, Apple's design lab, or on a night out, is to observe a very rare esprit de corps. What the competitors don't seem to understand is you cannot get people this smart to work this hard just for money.*

*Jonathan Ive (1967- )*

*discussed by Bono (1960- ) quoted by Ian Parker "The Shape of Things to Come" New Yorker, February 23. 2015*

## Johan Lyreborn and Goran Rydqvist

*"Stuff in life - at home, in the workplace, or in an algorithm - bogs one down. It drowns, it destroys the creative spirit. Saying no to stuff means making space for things that matter. Those who program know what we're talking about. Creating computer code is akin to writing poetry. Like a good poem, the best code is only as long as it needs to be, using the right commands, and in the right order. Code must look clean and beautiful. If it looks cluttered and ugly, it is going to be impossible to maintain - like a hoarder's house. The path to (or back to) simplicity can be painful. Saying no is hard. Getting rid of stuff (or the old way of doing things) is a ruthless process. But with perseverance, what emerges is good design - pure, foundational, sustainable."*

*Johan Lyreborn (c1967- ) and Goran Rydqvist (c1975- )*

*"Expert Opinion" Metropolis, June 2015*

## **Hari Kunzu**

*“Even if we may not fully understand the forces that operate on us, we still experience them, and this gives us know-how. Know-how isn’t about facts or descriptions. It’s having a knack for things, understanding what effect a particular tool has on a particular substance, what happens when you shift your weight on a skateboard. Know-how is the knowledge of cooks and chemists, managing activities and relative potentials between things that unfold over time. Designing using know-how is a kind of entangling, forming connections between processes and then managing the outcomes, rather than exerting top-down control.”*

*Hari Kunzu (1969- )*

*“Complexity” Harper’s, January 2021*

## **Aaron Hurst**

*"The purpose economy is 'The emerging economy defined by the quest for people to have more purpose in their lives. It's an economy whose value lies in establishing purpose for employees and customers - through serving needs greater than their own, enabling personal growth, and building community.'"*

*"The purpose economy is prevalent in the desired change from automation of broad systems (including education and healthcare) back to human-centered and community-driven experiences."*

*"Within each project sector, the purpose economy is evident in the changes associated with the types of interior environments we are currently being asked to design. Libraries have become a renewed place for communities to gather, not just repositories for books and resources. Healthcare has placed a greater emphasis on preventive medicine and holistic environments that actively assist in healing patients. Education interiors have become more multidisciplinary at both the K-12 and university levels, exchanging fixed furniture classrooms and lecture halls in many instances for smaller data-enabled seminar rooms and maker spaces. Hotels have reimagined their public areas and service offerings, becoming all-in-one places to stay, work, eat, and play as destinations for locals and tourists alike. And the workplace continues to evolve with greater integration of community and collaborative spaces, as well as places for individuals to relax."*

*Aaron Hurst (c1973- )*

*"The Purpose Economy" (2014) discussed and quoted by Evelyn M. Lee "As Designers, "Where Do We Find Purpose" Contract, September 2015*

## **Heather Burpee**

*“In the late 1700’s a re-evaluation of the hospital form was prompted by Louis XV in Paris, who developed a committee charged with creating standards for fundamental reform of the basic hospital typology. This sea change was prompted in part by the new recognition of clean air and hygienic conditions as agents of health, especially within hospital environments.*

*"The general plan of pavilion style hospitals included a primary supply corridor for circulation of people and supplies with finger plan patient wards that extend off this linear spine. The thin pavilion plan allowed light and air to penetrate and created garden views between the building crenellations.*

*“Evidence Based Design is a research field that specifically looks at the role of the hospital building related to human health, healing, and comfort.”*

*Heather Burpee (c1977- )*

*"History of Healthcare Architecture" Integrated Design Lab, Puget Sound (2008)*

## **Jon Kolko**

*"There's a shift under way in large organizations, one that puts design much closer to the center of the enterprise. People need their interactions with technologies and other complex systems to be simple, intuitive, and pleasurable. A set of tools collectively known as design thinking - empathy with users, a discipline of prototyping, and tolerance for failure chief among them - is the best tool we have for creating those kinds of interactions and developing a responsive, flexible organizational culture."*

*"Let's consider these principles: first, focus on user's experiences, especially their emotional ones. To build empathy with users, a design-centric organization empowers employees to observe behavior and draw conclusions about what people want and need.*

*"Second, create models to examine complex problems. Design thinkers tend to use physical models to explore, define and communicate. Those models - primarily diagrams and sketches - supplement and in some cases replace the spreadsheets, specifications, and other documents that have come to define the traditional organizational environment.*

*"Third, use prototypes to explore potential solutions. Only the act of prototyping can transform an idea into something truly valuable - on their own ideas are a dime a dozen.*

*"Fourth, tolerate failure. Leverage failure as learning, viewing it as part of the cost of innovation.*

*"Fifth, exhibit thoughtful restraint. Many products built on an emotional value proposition are simpler than competitors' offerings. This restraint grows out of deliberate decisions about what the product should do and, just as important, what it should not do. By removing features, a company offers customers a clear, simple experience.*

*"Every established company that has moved from products to services, from hardware to software, or from physical to digital products needs to focus anew on user experience. Every established company that intends to globalize its business must invent processes that can adjust to different cultural contexts. And every established company that chooses to compete on innovation rather than efficiency must be able to define problems artfully and experiment its way to solutions."*

*Jon Kolko (1978- )*

*"Design Thinking Comes of Age" Harvard Business Review, September 2015*

## **Sally Augustin and James A. Wise**

*"Today the average person spends more than 80% of a day indoors. As in the outdoors, interior spatial arrangements should be adjustable as users' needs change. Natural environments change in response to factors such as wind, water, and the orientation of the sun above the horizon. People are not designed to spend the entire day seated in one place. Designing from nature or with nature in mind does not mean gratuitously copying it. It is scaling and composing an interior so that its pattern reiterates the structure of preferred natural environments."*

*Sally Augustin and James A. Wise*

*"How Our Prehistoric Past Influences Modern Office Environments" Haworth White Paper c2000*

## **Penny Bonda**

*"All designers are tempted to 'make a statement' and many examples of 'statements' that work do exist. Unfortunately, too many don't, and that is our collective crime."*

*Penny Bonda*

*speech, ASID National Conference, Baltimore, August 1, 1996*

## **Richard Buchanan**

*"There is no area of contemporary life where design - the plan, project, or working hypothesis which constitutes the 'intention' in intentional operations - is not a significant factor in shaping human experience. Design even extends into the core of traditional scientific activities, where it is employed to cultivate the subject matters that are the focus of scientific curiosity.*

*"To gain an idea of how extensively design affects contemporary life, consider the four broad areas in which design is explored throughout the world by professional designers and by many others who may not regard themselves as designers:*

*"The first of these areas of design is the design of symbolic and visual communications. This includes the traditional work of graphic design, such as typography and advertising, book and magazine production, and scientific illustration, but has expanded into communication through photography, film, television, and computer display.*

*"The second area is the design of material objects. This includes traditional concern for the form and visual appearance of everyday products - clothing, domestic objects, tools, instruments, machinery, and vehicles - but has expanded into a more thorough and diverse interpretation of the physical, psychological, social, and cultural relationships between products and human beings.*

*"The third area is the design of activities and organized services, which includes the traditional management concerns for logistics, combining physical resources, instrumentalities, and human beings in efficient sequences and schedules to reach specified objectives. However, this area has expanded into a concern for logical decision making and strategic planning and is rapidly evolving into an exploration of how better design thinking can contribute to achieving an organic flow of experience in concrete situations, making such experiences more intelligent, meaningful, and satisfying.*

*"The fourth area is the design of complex systems or environments for living, working, playing, and learning. This includes the traditional concerns of systems engineering, architecture, and urban planning or the functional analysis of the parts of complex wholes and their subsequent integration in hierarchies."*

*"The linear step-by-step model of the design process is divided into two distinct phases: problem definition and problem solution. Problem definition is an analytic sequence in which the designer determines all of the elements of the problem and specifies all of the requirements that a successful design solution must have. Problem solution is a synthetic sequence in which the various requirements are combined and balanced against each other, yielding a final plan to be carried into production. There are two obvious points of weakness: one, the actual sequence of design thinking and decision making is not a simple linear process; and two, the problems addressed by designers do not, in actual practice, yield to any linear analysis and synthesis yet proposed."*

*"The wicked problems approach was formulated by Horst Rittel in the 1960's. As described in the first published report on Rittel's idea, wicked problems are a 'class of social system problems which are ill-formulated, where the information is confusing, where there are many clients and decision makers with conflicting values, and where the ramifications of the whole system are thoroughly confusing.' This is an amusing description of what confronts designers in every new situation. But most important, it points toward a fundamental issue that lies behind practice: the relationship between determinacy and indeterminacy in design thinking.*

*"Design problems are indeterminate and wicked because design has no special subject matter of its own apart from what the designer conceives it to be. The subject matter of design is potentially universal in scope, because design thinking may be applied to any area of human experience. The problem for designers is to conceive and plan what does not yet exist, and this occurs in the context of the indeterminacy of wicked problems, before the final result is known."*

*Richard Buchanan*

*"Wicked Problems in Design Thinking" Design Issues, spring, 1992*

### **Cathleen McGuigan**

*"'Eureka' moments are common in architectural lore – the cocktail napkin sketch that contains the entire DNA of a design, no matter how complex its execution."*

*Cathleen McGuigan*

*Designing Women" Architectural Record, May 2012*

### **Simon Norris**

*"Regardless of the proposed technology, the ultimate goal is to make any design and the experience as meaningful as possible to the user."*

*"People are actively looking for experiences that are meaningful. As designers it means we have to place even greater focus on understanding behavior from social, cognitive, and emotional perspectives."*

*"Psychologists are trained to understand human behavior, design experiments, analyze data, and generate insights and trends. Designers, on the other hand, are trained in representing information effectively, adding aesthetic difference, and creating visual appearance and personality. To design meaningful interaction requires both disciplines to work together harmoniously - hence research and design."*

*Simon Norris*

*"Designing Meaning: Translating Insight into Design" (2012)*

### **Susan Szenasy**

*"We all might be better people if we thought more about Granny - or anyone else we know who doesn't belong to the fully abled, vigorous group for which virtually everything is designed today."*

*Susan Szenasy*

*"Inclusive Design: A New Challenge", Metropolis, November 1992*

*"When any design - be it a car, a chair, a phone, a room or a street - frustrates people, makes them feel small and stupid, and makes others hate them for their ineptness, it is bad design. Let's not keep talking about good design until designers, manufacturers, and city planners recognize that they are in the service of humanity, in all its marvelous and confounding variety."*

*Susan Szenasy*

*"Accessible Cab?" Metropolis, April 2014*