

METODA PERANCANGAN ARSITEKTUR I

PERTEMUAN KETIGA + TATAP MUKA + DUKUNGAN MULTIMEDIA + DISKUSI

DESIGN = DESAIN, ASPEK, RUANG DAN BENTUK

- DESIGN
- ASPEK
- RUANG DAN BENTUK

- **DESIGN**

ARSITEKTUR SEBAGAI SISTEM

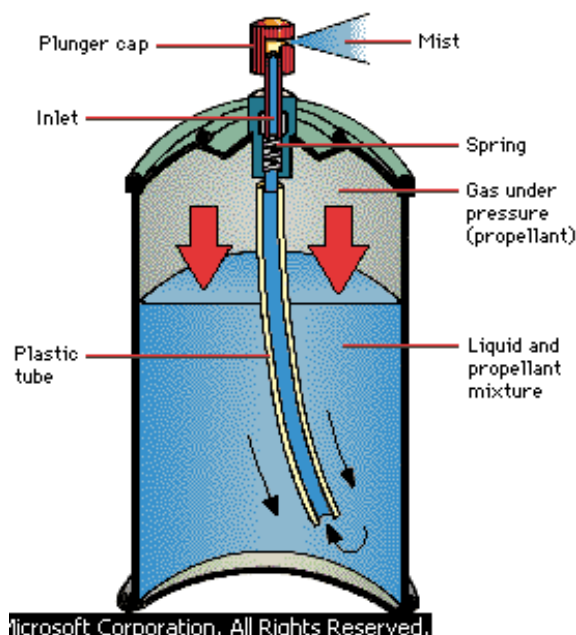
Apakah sistem itu? Sistem adalah suatu keseluruhan yang **terdiri atas** dan/ atau **terjadi dari** bagian-bagian (sub-sub sistem) yang terkomposisi secara teratur (mengikuti order tertentu) dan berinteraksi satu sama lain secara teratur dan terus menerus untuk mencapai suatu tujuan. Contoh: Kursi Kuliah, Ruang Kelas, Aerosol Dispenser, Gedung, dsb.

System, any collection of component elements that work together to perform a task. In computer science, system is used in a variety of contexts. A computer is a hardware system consisting of a microprocessor and allied chips and circuitry, plus an input device (keyboard, mouse, disk drive), an output device (monitor, disk drive), and any peripheral devices (printer, modem). Within this hardware system is an operating system, often called system software, which is an essential set of programs that manage hardware and data files and work with application programs. External to

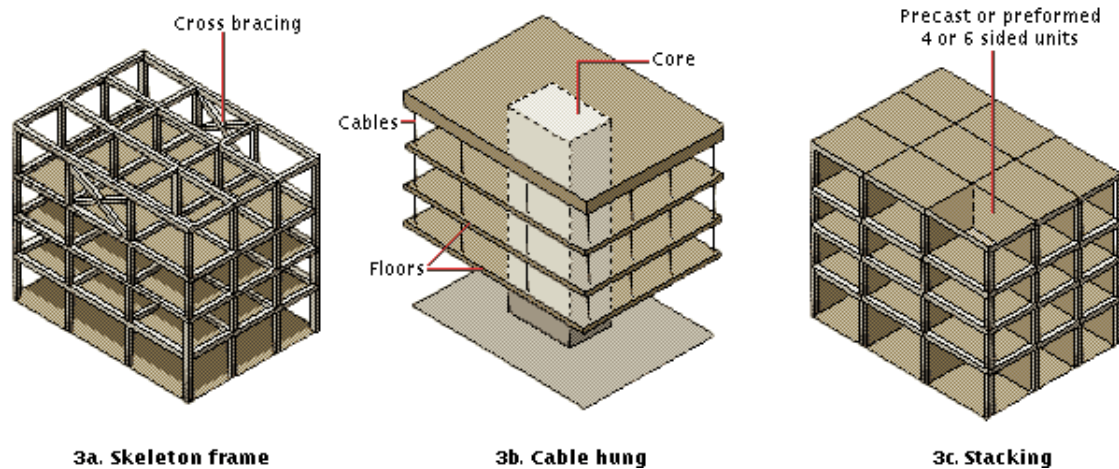
the computer, system also refers to any collection or combination of programs, procedures, data, and equipment utilized in processing information: an accounting system, a billing system, a database management system. Microsoft ® Encarta ® 2009. © 1993-2008

Aerosol Dispenser

This illustration depicts the inner workings of a typical aerosol dispenser. A pressurized gas in the upper part of the can exerts pressure on the mixture below. When depressed, the plunger cap opens an inlet valve that allows the mixture to rush through the plastic tube and escape from the can through a nozzle. Aerosol dispensers commonly contain products such as cosmetics, paint, and food. © Microsoft Corporation. All Rights Reserved. Microsoft ® Encarta ® 2006. © 1993-2005 Microsoft Corporation. All rights reserved.



- Apakah gedung dalam konteks produk arsitektur adalah sebuah sistem? Ya, gedung adalah



sebuah sistem apabila kita merujuk kepada pernyataan-pernyataan di atas.

Figure 3: Building Structures. The framework for multistory buildings may be constructed in a number of ways, three of which are shown here. Skeleton framing (3a) involves a network of columns, girders, and beams, interconnected to provide strength and stability. In the cable hung method (3b), all floors except for the ground floor are supported by a central utility core. Each floor is both connected to the core locally and attached to the roof framing at the top of the core by hanging cables. The stacking frame (3c) utilizes boxlike prefabricated units, constructed off-site. Cranes lift the individual units into place, after which they are fastened together to create a sturdy framework. © Microsoft Corporation. All Rights Reserved. **Microsoft ® Encarta ® 2006.** © 1993-2005 Microsoft Corporation. All rights reserved.

- Apakah gedung, khususnya di era MODEREN, yang elemen-elemennya diproduksi secara proses industri (*large scale production* atau produksi berskala besar dan termekanisasi) sebagai produk yang sama dengan produk manufaktur (membuat sesuatu menjadi produk selesai dengan menggunakan bahan baku pada khususnya pada industri skala besar dan termekanisasi) ? Elemen-elemennya ya namun arsitekturnya sebaiknya tidak, mengapa?



Manufacturing, Massachusetts.

Massachusetts is one of the leading states in the United States in manufacturing. Among the most important goods produced by the manufacturing sector are electronic goods, particularly high-technology electronic components. In this factory, workers assemble and test stereo equipment. Liaison Agency/Seth Resnick. **Microsoft ® Encarta ® 2006.** © 1993-2005 Microsoft Corporation. All rights reserved.

■ **PERANCANGAN**

Apakah itu *design* atau perancangan ? Design, creating an object's form and function. Design can involve making products, machines, and structures that serve their intended purpose and are pleasing to the eye as well. **Microsoft ® Encarta ® 2009.** © 1993-2008 Microsoft Corporation. All rights reserved.

Uraian pada halaman berikut adalah beberapa pendapat tentang *designing*.

Finding the right physical components of a physical structure (Alexander, 1963)

A goal-directed problem-solving activity (Archer, 1965)

Decision making, in the face of uncertainty, with high penalties for error (Asimow, 1962)

Simulating what we want to make (or do) before we make (or do) it as many times as may be necessary to feel confident in the final result (Booker, 1964)

The conditioning factor for those parts of the product which come into contact with people (Farr, 1966)

Engineering design is the use of scientific principles, technical information and imagination in the definition of a mechanical structure, machine or system to perform prespecified functions with the maximum economy and efficiency (Fielden, 1963)

Relating product with situation to give satisfaction (Gregory, 1966ba)

The performing of a very complicated act of faith (Jones, 1966a)

The optimum solution to the sum of the true needs of a particular set of circumstances (Matchett, 1968)

The imaginative jump from present facts to future possibilities (Page, 1966)

A creative activity—it involves bringing into being something new and useful that has not existed previously (Reswick, 1965).

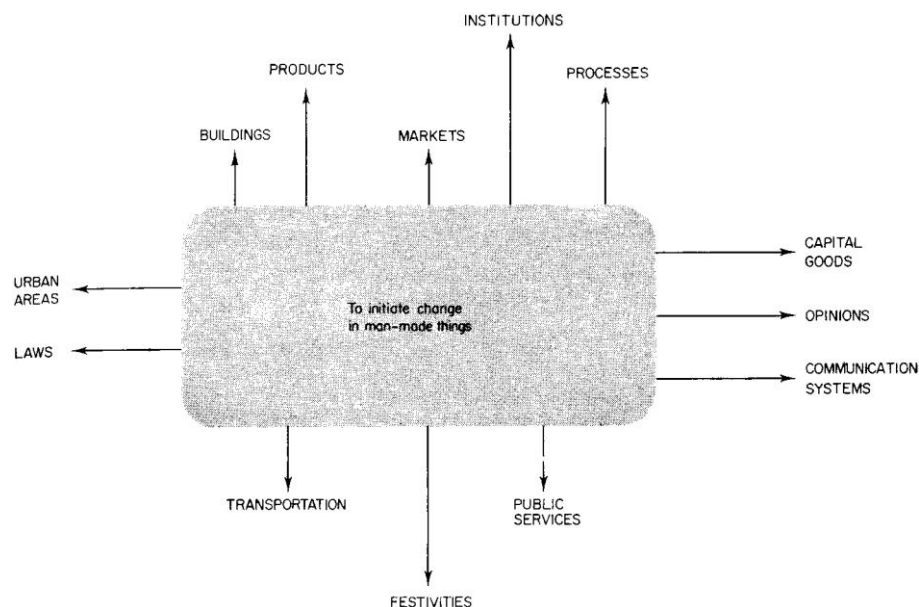


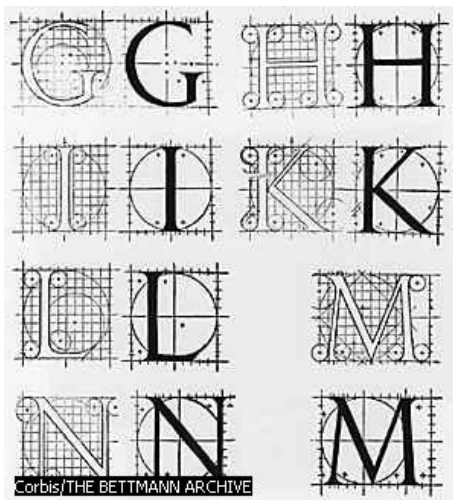
Diagram : To Initiate Change in Man-Made Things.

Pada umumnya mereka berpendapat bukan tentang hasil perancangan akan tetapi lebih kepada bagaimana ramuannya. Namun apabila kita hendak

mencari basis pemikiran-pemikiran kita yang lebih mantap, sebaiknya kita melihat juga bagian luar dari proses tersebut dan mencoba mendefinisikan rancangan dari hasil atau akibat proses bersangkutan. Cara yang paling sederhana adalah melihat mata rantai terakhir dari event-event yang dimulai dari : Keinginan Sponsor – Tindakan Para Perancang – Para Pelaku Manufaktur – Distributor – Pemakai – sampai dengan dampak terbesar dari rancangan baru tersebut bagi masyarakat bahkan dunia.

Setiap orang dapat mengatakan bahwa masyarakat atau lebih tepatnya dunia tidak akan pernah sama dengan kondisi pada saat sebelum suatu rancangan baru muncul. Suatu rancangan baru, apabila berhasil, akan merubah situasi seperti yang diharapkan oleh sang sponsor, sebaliknya apabila

tidak berhasil seperti pada umumnya terjadi yaitu hasil akhir tidak sesuai dengan keinginan sponsor serta prediksi para perancang, masih tetap akan ada perubahan sekalipun kecil. Dengan perkataan lain kita dapat menyimpulkan bahwa salah satu efek dari perancangan (*building*) adalah *To Initiate Change in Man-Made Things* atau memulai melakukan perubahan dengan segala buatan manusia salah satunya dengan merancang dan membangun gedung.



Type Design. This illustration shows the complicated geometry behind what appears to be a simple, unembellished style of type. The manufacture of individual pieces of moveable type accompanied the famous printing of Johannes Gutenberg's Bible about 1455. The first type designs were based on 15th century manuscript handwriting, but soon they evolved into a variety of national and regional styles. Corbis/ THE BETTMANN ARCHIVE. Microsoft® Encarta® 2006. © 1993-2005 Microsoft Corporation. All rights reserved.

Architecture (*building*), the practice of building design and its resulting products; customary usage refers only to those designs and structures that are culturally significant. Architecture is to building as literature is to the printed word. **Vitruvius, a 1st-century BC Roman, wrote encyclopedically about architecture, and the English poet Sir Henry Wotton was quoting him in his charmingly phrased dictum: "Well building hath three conditions: Commoditie, Firmerne, and Delight."** More prosaically, one would say today that architecture must satisfy its intended uses, must be technically sound, and must convey aesthetic meaning. But the best buildings are often so well constructed that they outlast their original use. They then survive not only as beautiful objects, but as documents of the history of cultures, achievements in architecture that testify to the nature of the society that produced them. These achievements are never wholly the work of individuals. Architecture is a social art.

Architectural form is inevitably influenced by the technologies applied, but building technology is conservative and knowledge about it is cumulative. Precast concrete, for instance, has not rendered brick obsolete. Although

design and construction have become highly sophisticated and are often computer directed, this complex apparatus rests on preindustrial traditions inherited from millennia during which most structures were lived in by the people who erected them. **The technical demands on building remain the elemental ones—to exclude enemies, to circumvent gravity, and to avoid discomforts caused by an excess of heat or cold or by the intrusion of rain, wind, or vermin. This is no trivial assignment even with the best modern technology.** Microsoft ® Encarta ® 2006. © 1993-2005 Microsoft Corporation. All rights reserved.

▪ APAKAH SEBENARNYA OBJEKTIF ATAU SASARAN PARA PERANCANG ?

Objektif tradisional yang kita ketahui selama ini adalah bahwasanya para perancang memproduksi sejumlah gambar untuk disetujui oleh kliennya dan sebagai instruksi bagi para produsen atau suplayer (*supplier*). CLADDING

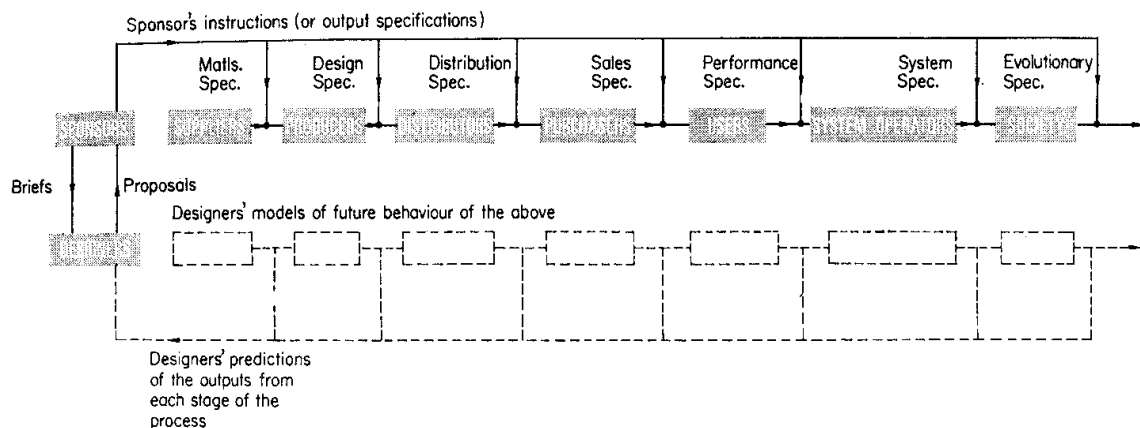


Fig. 1.1

Akan tetapi dalam **definisi baru designing**, beberapa objektif harus dicapai terlebih dahulu sebelum diselesaikan dalam gambar atau bahkan sebelum dimulai untuk digambar. Apabila objek yang digambar dapat memperlihatkan perubahan yang akan terjadi secara umum katakanlah di seluruh dunia, maka para perancang harus mampu untuk memprediksi efek maksimum dari rancangan yang diusulkannya tadi sama halnya harus mampu menspesifikasi tindakan-tindakan yang diperlukan untuk mengatasi efek tersebut. Lihat gambaran pada figur 1.1 dan figur 1.2 *Design Methods*.

Jadi arsitektur sebagai sistem merupakan sub sistem pula dalam sistem yang lebih besar mulai dari skala lokal, regional, nasional, bahkan global. Arsitektur tidak berdiri sendiri dan tidak beralienasi.

▪ ASPEK DALAM ARSITEKTUR

DEFINISI

Aspek menurut *Compton's Interactive Encyclopedia* adalah penampilan atau kinerja dari sesuatu, yang dipandang dari suatu segi. Aspek dalam arsitektur adalah penampilan atau kinerja arsitektur apabila dipandang dari segi

tertentu seperti: aspek politik, ekonomi, atau aspek lingkungan. Berarti arsitektur berdasarkan kinerjanya dapat dipandang dari berbagai segi atau aspek.

Dapat dipandang dari segi apa sajakah arsitektur? Minggu lalu kita telah mengenal 5 faktor yang mempengaruhi terwujudnya arsitektur yaitu: *Needs, Technology, Society, Cultural, and Climate*, hal ini berada dalam konteks ke lima faktor tersebut mau tidak mau akan mempengaruhi terbentuknya arsitektur karena memang alam menuntutnya demikian. Aspek-aspek dalam arsitektur lebih membatasi, dalam artian tidak selamanya buruk, dalam pemenuhan ke 5 faktor di atas. Yang dapat dianggap sebagai aspek-aspek



dalam arsitektur adalah Ideologi, Politik, Ekonomi, Sosial, Budaya, dan Lingkungan. Contoh : Aspek ideologi: **Ideologi Fasisme Benito Mussolini-Italia**, arsitektur dipandang sebagai representasi otoritarianisme pemerintahannya saat itu. **Fascism → dictatorial movement:** any movement, ideology, or attitude that favors dictatorial government, centralized control of private enterprise, repression of all opposition, and extreme nationalism.

Fascist Propaganda. Italian dictator Benito Mussolini mobilized a vast propaganda machine to garner support for his regime. This picture shows the headquarters of the fascist movement in Rome, adorned with a large stylized representation of Mussolini's face. The word *si*, which is repeated over and over, is Italian for yes. **Microsoft © Encarta ® 2009. © 1993-2008 Microsoft Corporation. All rights reserved.**

1. Needs akan sangat bersifat **simbolis**; Technology, yang digunakan pada umumnya teknologi untuk **arsitektur langgam–langgam imperium**;
2. Society, terlihat sekali kesenjangan antara **arsitektur kekuasaan** dan rakyat;
3. Cultural, pada umumnya bukan budaya murni akan tetapi lebih kepada manerisme kejayaan masa lalu atau **historisisme bahkan eklektisisme**;
4. Climate, bahkan **diabaikan sama sekali**.

Untuk kelima aspek lainnya contoh-contoh dapat dianalogikan seperti aspek ideologi.



Benito Mussolini. Benito Mussolini led Italy from 1922 to 1943. He founded the first fascist political group and later allied his country with Germany in World War II. Mussolini took the title *Il Duce* (The Leader). His clenched fist, jutting jaw, fiery speeches, and dramatic poses became his trademarks. **Microsoft © Encarta ® 2009. © 1993-2008 Microsoft Corporation. All rights reserved.**

ARSITEKTUR SEBAGAI PERWUJUDAN RUANG DAN BENTUK

• Ruang dan Bentuk

Pengertian ruang secara arti kata adalah tempat yang dapat digunakan untuk melakukan berbagai kegiatan, baik berupa *movement activities* maupun *non movement activities*. Secara konvensional kita mengenal ruang sebagai sesuatu yang terbentuk dari tiga agregat atau bidang, bidang lantai, bidang dinding, dan bidang langit-langit (secara populer dikatakan sebagai LDLL). *Prinsip Ruang dan Bentuk: THE UNITY OF THE OPPOSITE.*

Figure and Ground. Do you see a white vase or the profiles of two faces? The figure-ground relationship in this drawing is ambiguous—the white and black areas can each be perceived as either the figure (the object we focus on) or as the ground (background). © Microsoft Corporation. All Rights Reserved. **Microsoft® Encarta® 2006.** © 1993-2005 Microsoft Corporation. All rights reserved.



Bridgeman Art Library, London/New York.

Pengertian filosofis seperti yang dikemukakan oleh Lao Tzu atau Filsuf Cina (550 SM) mengatakan: “*Though clay maybe molded into a vase, the essence of the vase is the emptiness within.*”, meskipun tanah liat dapat dibentuk menjadi vas bunga, akan tetapi inti dari vas bunga tersebut adalah kekosongan yang terbentuk.

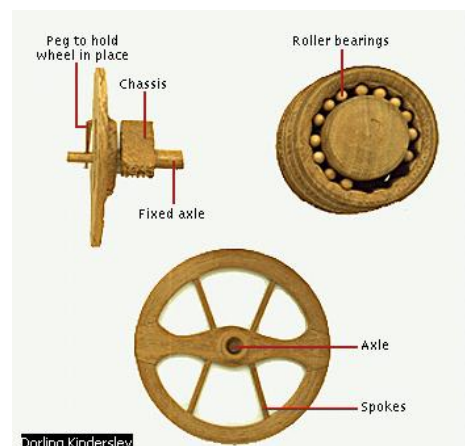
- Masih pendapat Lao Tzu, dengan filosofi Tao (*The Way of Becoming*) atau dari tiada menjadi ada. *We make a vessel from a lump of clay; It is the empty*

space within the vessel that makes it useful.

Neolithic Chinese Jar. This jar from Gansu in north central China is dated about 2500 BC. It is a very early wheel-thrown piece and features geometric designs in black and reddish-brown on a buff-colored body. This piece may have been used as a burial urn. Bridgeman Art Library, London/New York. **Microsoft® Encarta® 2006.** © 1993-2005 Microsoft Corporation. All rights reserved.

- *Thirty spokes converge upon a single hub; It is on the hole in the center that the purpose of the axle depends.*

Wheel Structures. Considered one of the most important inventions in history, the wheel is more than 5000 years old and has been crucial to mechanical devices ever since it emerged. The wheels shown here are relatively sophisticated in comparison to the earliest models. In the case of a fixed axle, the wheel is held in place beside the chassis by a small peg and revolves independent of the axle. (This model differs from another standard design, the moving axle, in which the axle is firmly fixed to the wheel and the two components revolve as a unit.) Early forms of roller bearings, devices that help wheels to turn more smoothly, were developed around 100 BC. Wheels were initially solid disks, but gradually evolved into the spoked



design, which is both light and strong. Dorling Kindersley. **Microsoft® Encarta® 2006.** © 1993-2005 Microsoft Corporation. All rights reserved.

Yin and Yang. According to Chinese philosophy, yin and yang are two opposing and counterbalancing forces in the universe. This symbol represents them. Yin is the dark half and yang the bright half, but neither could exist without the other. © Microsoft Corporation. All Rights Reserved. **Microsoft® Encarta® 2006.** © 1993-2005 Microsoft Corporation. All rights reserved.



- We make doors and windows for a room; But it is the



Leo de Wys, Inc./Vladpans

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empty spaces that
make room habitable.

Habitat Project. Habitat is a prefabricated housing complex designed by Israeli-born, Canadian-trained architect Moshe Safdie for Expo '67 in Montréal, Québec. Each of the modules contains a separate apartment, and the modules are stacked and interlocked to give the appearance of organic growth. Leo de Wys, Inc./

Vladpans. **Microsoft® Encarta® 2006.** © 1993-2005 Microsoft Corporation. All rights reserved.

- Thus while the tangible has advantages; It is the intangible that makes it useful.

Tuhan YME sang pencipta telah menciptakan alam, dan terdapat banyak kekosongan di dalamnya berarti kita telah diberi begitu banyak ruang, akan tetapi ruang seperti apakah yang kita maksudkan? Ruang yang kita maksudkan adalah alam yang sudah dibatasi, yaitu dibatasi oleh berbagai intensitas atau pamrih manusia. Pamrih seperti apakah, tentunya segala jenis pamrih yang berhubungan dengan kegiatan manusia sebagai pengguna utama arsitektur. Dengan berkembangnya pengertian ruang saat ini kita dapat mengenal Ruang Dalam – Ruang Luar, Ruang Positif – Ruang Negatif, Ruang Statik – Dinamik, Ruang Menerus, dan sebagainya, tentunya seluruhnya memiliki keterkaitan dengan bentuk.

UNIKOM – Bandung, 2017