Anthropology

Anthropology

An analysis on linguistics, ethnos and geography

The first misconception to be eliminated in order to understand the connection between the evolution of design and human cultural evolution itself is the distinction between design, art and artisan-ship. Although the name was created and the discipline was theorized just after the Industrial Revolution, there was a long and meaningful period of intense development in this "Design Prehistory".
Oblivious to the numerous attempts to establish clear distinctions between the three fields of study, very often, new provocative and conceptual projects put into conflict this belief. Good examples are the Vonoroi Bookshelf by Marc Newton or the Tiffany Lamps. These projects represent the crisis on the basic distinction among design, artisanship and art. The Vonoroi Bookshelf is a One Piece Design, it is hardly functional and was sold in an auction and the Tiffany Lamps were almost entirely handcrafted.
The cultural, functional and technological components of the evolution of design are strictly connected to the history of human culture and can be studied and analyzed, not just from the Industrial Revolution onwards, but from much earlier. The design of objects, buildings and the production of pieces of art were already studied and theorized more than 2000 years ago.

> "Gli inizi dell'ottimizzazione funzionale e progettuale dei prodotti possono essere ricercati a ritroso fino all'antichità. Risalgono a Vitruvio (circa 80 – 10 a. C), artista, ingegnere e ingegnere militare, gli scritti di Architettura più antichi tramandati, i suoi "dieci libri di Architettura" sono il primo manuale complessivo di regole per progettare.

> "The beginning of the design and functional optimization of products can be traced to Antiquity. They date back to Vitruvius (approximately 80 – 10 b. c.), artist, engineer and military engineer, whose oldest architectural writings, his "Ten Books on Architecture" made up the first overall guide to design rules."

Anthropology

Burdek, Bernhard E.
Design. Storia, Teoria e Pratica del Design del Prodotto
2002
p.29

Yet even before Vitruvius, who probably theorized for the first time in Western history, ceramics, printing methods, weapons and other examples of design were progressively been studied and improved upon. In fact, even millennia before documented history, simple designs such as arrowheads, vases, plows and typefaces were already being developed.
Today, although industrial processes are fairly standardized, the automation of an assembly line is determined by a whole series of variables, including the amount of pieces to be produced, the complexity of the techniques involved, the required materials, etc; rather than by the size or economic means of the company. Automation is just one aspect of design and should never be confounded with design itself, especially considering that very few products are manufactured sparing manual labor.
Once we understand these principles, it's impossible to summarize the discipline in a Cartesian relation between form and function. Every object, every shape, every production method carries many layers of human culture. A telephone is not merely a talking device; embedded in its shape and function lie aspects of all the designs that came before it, regardless of its real function and the technologies involved in its use.
Design, notwithstanding its technical and functional aspects, is a manifestation of human culture, a physical and material language and should be studied as such. Design's evolution follows the processes of our own specie's evolution. These assumptions allow us to use the study of human history as a method for interpreting design's evolutionary processes.
In order to more deeply analyze human history and consequently human evolution however, we need to go beyond the regular documentation of manuscripts. Fossils and objects, some components of human DNA, the geographical distribution of languages and the semantic differences among

those languages provide us with precious information about the routes of human expansion, occupation and cultural development.

> "il legame lingua-popolo-progetto sociale è così evidente che l'analisi di uno di questi elementi ci permette una migliore comprensione anche degli altri."

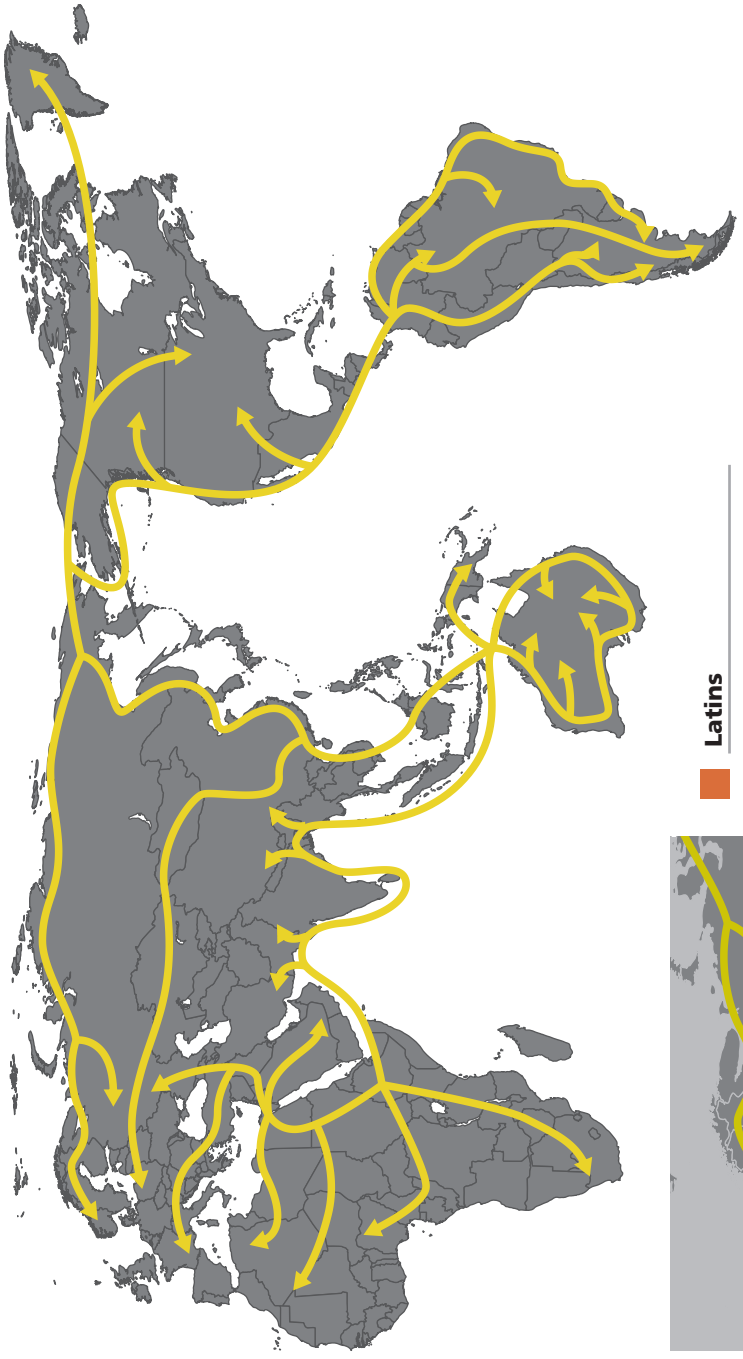
> "The connection between language-population-social project is so evident that the analysis of one of these components gives us a better understanding of all of them"

Barbina, Guido
La geografia delle lingue,
2009
p.28

Relation between Design and Human Evolution

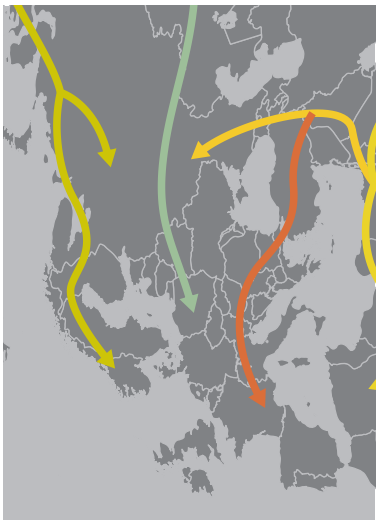
The first parallelism between these disciplines is the strait connection between the linguistic fauna and the particularities of the peoples responsible for cultural, functional e technological evolutionary steps, and the matching of this analysis with the evolutionary process in each place. This reference gives a strong information basis and allows us to understand the reasons that led Design evolution to happen in a certain way, being performed by determined peoples in determined countries.
In order to study the transition from artisan-ship, the development of architecture, art and design to industrialization, it's most convenient to focus on human evolution in the continent where all of the fore-mentioned processes took place: Europe.
Obviously, the influences of other continents' cultures on the European scene, particularly from an aesthetic point of view, had their relevance and will be observed soon enough, but, up until a recent moment in the evolution of design, they played a secondary role.
In Europe, the continent where all design theory and practice were

Anthropology



Latins
Slavic
Germanics
Uralics

modern man expansion on the Paleolithic Era
hypothetic route
Geni, Popoli e Lingue, 1996



developed, we witness an impressive cultural and ethnic diversity (that has been built up over millennia) with layers of different occupations, mixtures and periods of isolation.
According to Luigi Luca Cavalli-Sforza, the ethnic panorama of Europe should take into consideration five main components:

Agriculture expansion

New cultivation techniques developed by Homo Sapiens, allowed the expansion from the Middle-East up into Asia and Europe. The invention of the plow was the key factor that permitted a population growth never previously witnessed. Human occupation, from that moment onwards, underwent a process of expansion amounting to one kilometer a year in all directions.
This conclusion was based upon results obtained by studies performed with fractions of human DNA from many subjects in Europe, Asia and Africa, that demonstrated a progressive genetic discrepancy between areas of the Middle-East area towards Europe and Asia.
The impact of this phenomenon on human evolution represents a progressive cultural deviation from the original group, which arrived slowly from the Kenyan region over centuries and from that moment on, spread rapidly across Europe and Asia. This means that culturally and ethnically, Northern and Western European cultures are less similar to those of Arabia than are the cultures of Southern and Eastern Europe. It also meant that ethnic groups situated far from The Middle East are more recent.
Obviously this aspect must be recalculated based upon some other variables, described below.

Climate adaptation

The earliest human occupation played an important role in defining the ethnic panorama. if we consider the enormous time gaps and geographical processes that differentiate one occupation from another and the overlaps that

occurred posteriorly. The first theorized flow of occupation was said to come directly from Africa approximately 60,000 years ago, establishing itself in Southern Europe. The second occurred soon after, in the Caucasian region.
The third occupation group however, prior to its arrival in Central Europe from Asia, migrated all the way down to Oceania, surrounded the entire southern coast of Asia, before turning around and coming all the way back through Central Asia. The fourth occupation group, which at a certain point diverged from the third group in the South-East of Asia, took a different path, coasting the North of Asia before arriving in Northern Europe. This theoretical structure gives us an idea of how the "racial" composition of Europe was developed.
The signs taken under consideration are a series of somatic traits and progressive genetic discrepancies (due to genetic drift) between the different populations of Europe and Asia. These also provide us with a second object of analysis. As human beings moved away from the Equator, (thanks to a slow process of natural selection), subjects with less melanin prevailed, being as they were, more sensitive to sunlight and also more capable of metabolizing vitamin D in the case of under exposure. In addition, narrower and puffier eyelids that protected from low temperatures follow the same process. Hair lost its primary function, which was to protect from sunlight and retard the evaporation of sweat, and became straighter.
In addition to these examples, other minor genetic residual information provides us with further clues about migration and occupation flows.
The presence of these characteristics account for the second important component of European ethnic composition, the Uralic occupation. This Asian population, theoretically the fourth occupation group, invaded Europe around 12,000 years ago, stretching from Northern Europe down to Hungary. Their eventual retraction left behind a significant cultural and ethnic heritage. The remaining Uralic genetic patrimony in people of such areas is nowadays much reduced, but the linguistic and cultural influences of that invasion on those societies are still very intense.

Anthropology

Language evolutionary flow

Language is not merely one component of the cultural structure of Europe; rather it is the key factor to understanding cultural connections, groups, isolation events etc. It is the readable genetics of human culture.

> "È proprio un errore di valutazione immaginare che una persona si adatti alla realtà essenzialmente senza l'uso della lingua e che la lingua sia solo un mezzo accidentale di risolvere specifici problemi di comunicazione o di pensiero. L'essenza della questione è che il "mondo reale" viene costruito, in gran parte inconsciamente, sulle abitudini linguistiche del gruppo"

> "It's a mistake indeed to believe that a person adapts to a situation without the use of language, or that language is just an incidental means of solving specific communication or thinking problems. The essence of the matter is that the "real world" is built, for the most part unconsciously, on the linguistic habits of a group."

Sapir, Edward
Language, Culture and Personality
1949
p. 58

In Europe, there remain four major linguistic groups. Three of these are categorized as Indo-European: Italic, Germanic and Balto-Slavic (a classification that fits perfectly with the genetic distribution and variation patterns), and the fourth and only group that doesn't belong to this family, is Uralic. A few other isolated languages had an earlier influence on European culture and linguistics, and are separated from the other Indo-European tongues by millennia, such as Albanian, Armenian and Hellenic (Greek).
The original language tree of Europe was a lot more diversified and included tongues that are today almost extinct (such as the tongues from the Celtic family), but later cultural fusions eliminated almost entirely these recessive cultural cores.

Anthropology

A minor and rather inexpressive, but yet astonishingly odd tongue can still be heard in Europe. Basque; a language separated historically from the other European tongues by more than 40,000 years, maintains some similarities with Asian tongues. It had a minor impact on European culture but provides a rare demonstration of the importance of cultural and geographical isolation, and the occupation processes.
According to linguistic studies, Basque has resisted uncontaminated since before the first great human expansion, evolving in a complete drift from all the other former Asian-European languages.

Wars and territorial disputes

The fourth component concerns the process of territorial dispute that took place after the initial occupation flow. Much more recently, approximately 3500 years ago, there was a movement of expansion from Greece towards Italy. It was called the Great Greece and became more populated and more important than Greece itself. Given that this process occurred a lot later than the agriculture expansion, for example, the amount of information and physical evidence of the phenomenon are significantly less scarce, and demonstrate the effect on the cultural evolution of that region.

Cultural and geographical isolation

A few solid examples demonstrate the importance of isolation in the evolution of a culture.
The first one concerns the Uralic invasion, the absolute disconnection of the Hungarian language from the languages spoken in Hungary's surrounding countries, and its similarity on the other hand to other Uralic tongues, in particular Finnish, even though those countries share no border or geographical connection whatsoever. This fact, besides proving definitively the range of the Uralic invasion, also illustrates the persistence of a cultural trait and the role of isolation in linguistic drift.

Anthropology

The same pattern can be found in the Romanian language, a vestige of the Roman Empire's domination period. The Romanian language boasts few similarities with languages spoken in its surrounding countries but maintains deeper similarities with Italic languages.

The importance of ethnicity in the evolution of design

The construction of Europe's cultural web took place at a very early point of human territorial settlement, preceding by a lot the first manuscripts on Architecture or the first aesthetic periods. Nevertheless the cultural differences among European countries have played an important role in the development of design.
Throughout the centuries of cultural exchange among these peoples, we can find aspects of their cultures that can be isolated and studied separately. There are characteristics of Germanic cultures that can only be found in the development of design in the countries of Germanic tongues such as England and Germany. Other characteristics are unique to Latin countries such as Italy or France, while some others are evidently connected to the peculiar historical background of Uralic and Nordic countries, and so on and so forth.

Germanic Design

There is a set of characteristics regarding Germanic cultures that influenced with the development of design in those countries. One of them is the fact that the first great attempts to develop a Design Method took place in those Countries, England and Germany.
Firstly in England, with the Industrial revolution - the event that forever altered human culture and development. The invention of the first vapor machine by Thomas Savery and similar inventions that followed, triggered an unstoppable industrialization process that uprooted previous design practice and artisan-ship, making it impossible to go on without a well established methodology of design. For a few decades, machinery was mostly developed

Anthropology

for textile production and agriculture, but eventually, not necessarily the machinery, but more precisely the mass production system devastated design standards.

The aesthetic movements in furniture design that until that moment overlapped one another (just like the art and architecture movements), entered into crisis, and a series of revivals took place until the end of the cycle.

The reaction from designers and artisans came almost one hundred and eighty years later with the creation of the first post-industrialization design movement, the Arts&Crafts. It was, in some aspects, an attempt to establish rules and methods and at the same time to attribute value to artisan skill and old-school techniques.

Some artists involved in the movement tended to oppose the division of labor which had been one of the main causes of the crisis in the first place, but the most significant contribution came from those who accepted and understood the new scenario. For those people, the new system should not be refuted, but should rather be considered and explored in the best way possible.

Stickley Chair
Gustav Stickley, 1902

Bauhaus Chess
Josef Hartwig, 1923

Anthropology

A similar phenomenon occurred in Germany some years later with the assembly of a sort of design syndicate sponsored by the Government, the Deutscher Werkbund had very similar goals to the Arts&Crafts movement: to establish rules or methods of production, to take advantage of the Industrial Revolution etc.

Later, the creation of the Bauhaus consolidated the intentions of the Deutscher Werkbund. Thus in a more organized way, the Bauhaus proposed a better management and understanding of the roles of artist, artisan and engineer in the design process. Evidently, it's not possible to summarize in a few lines all that Bauhaus brought to the development of design nor its ideological setups that changed and complemented one another cyclically. There were three distinct periods in which the methodology of design had a somewhat more artistic or more technical approach, but the guidelines always however provided a better understanding of design as a technical discipline.

The social background was obviously auspicious to the development of the rationalization of Design everywhere, but the fact that two different countries with common cultural roots reacted to industrialization in the same manner had a lot to do with their cultural formation.

Apart from that, the adaptation in similar ways to a new environment by two separated elements, is a clear sign of evolutionary convergence, much like the invention of the bow and arrow, ceramics (adaptations found in almost every human group), the pyramids (constructed either by the Egyptians, the Mayans, the Incas and the Aztecs); or in natural evolution, flying (bats, flying-foxes and birds), or growing a beak (octopi and birds).

Italic Design

While the Germanic countries reacted to a technological rupture in the design environment, by rationalizing and creating methods to manage new design issues, the Italic countries took a different path, following their own cultural setups. In Italy, France and Spain, the development of design leaned a lot more

Anthropology

towards understanding communicative potential and the responsibilities of design than it did to improving technical methodology.

> "In nessun paese, si è pubblicato tanto riguardo al Design come in Italia. Dopo la seconda guerra mondiale, designer, aziende e media hanno compreso con grande abilità come occupare un territorio al quale erano stati predestinati quasi per tradizione."
>
> "In no other country there have been so many publications about design as in Italy. After the Second World War, designers, companies and the media understood how to occupy with great ability a territory to which they were practically predestined by tradition."

Design. Storia, Teoria e Pratica del Design del Prodotto
Burdek, Bernhard E.
2002
p.101

'Alexandra Chair
Javier Mariscal, 2006

W.W.Stool
Philippe Starck, 1991

'fungo' table lamp
Massimo Vignelli, 1955

Anthropology

It was in Italy in fact that the conceptual rationalization of design was conceived. From Concept Design, Pop Design, Radical Design to Memphis, Italy built a solid structure of creativity exploring design's cultural aesthetic component to the maximum. Yet even before this, the Italian ideal of design had always been related to aesthetics, fashion and the decorative form. In Italy, art, design and lifestyle were connected as in any other country.
In Spain, due to political, social and economical limits, design saw a late development but the tendency to approach the discipline by exploring its cultural potential, and attributing value to tradition, art and artisan-ship followed similar steps to the Italian case.

> "Dopo la fine del quarantennio franchista, in Spagna si spianò la strada ad una evoluzione culturale degna di nota (…) si aggiunge una struttura economica simile a quella dell'Italia settentrionale, numerose botteghe artigiane e laboratori artistici ritornano alle loro tradizionali attitudini, aprendosi a nuove tendenze, sia culturali, che orientate al design."
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> "After Franco's dictatorship period in Spain, the basis for a remarkable cultural evolution was created (…) in addition, an economic structure similar to that of Northern Italy's, numerous artisan ateliers and artistic studios recovered their traditional behaviors, opening up to new cultural trends and design tendencies."
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> Design. Storia, Teoria e Pratica del Design del Prodotto
> Burdek, Bernhard E.
> 2002
> p. 119

The use of warm, vivid colors, bold, strong shapes and expressive lines both in graphic and product design became the trademark of the Spanish style. There was a synergy among art manifestations and design, also similar to the Italian scene.

Anthropology

> "All'inizio degli anni Ottanta, grazie a una forte influenza culturale italiana, si sviluppò un Movimento-Vanguardista, con chiare caratteristiche neo-moderne, messe in evidenza nel 1983 durante la grande mostra di arte e design "Arteder", svoltasi a Bilbao."
>
> "At the beginning of the 1980's, thanks to a strong Italian cultural influence, a Vanguard-movement was developed, with very distinctive neo-modern characteristics, clearly shown in 1983 during the Grand Exhibition of Art and Design "Artender", held in Bilbao."
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> Design. Storia, Teoria e Pratica del Design del Prodotto
> Burdek, Bernhard E.
> 2002
> p. 120

In France it took several years for the well developed French fine arts to start influencing design, but a national vocation eventually emerged and manifested itself, as in other Italic societies, as a very expressive artistic orientation. Art Deco was the first truly French contribution to design and followed a set of ideological guidelines that can still be observed in the work of Philippe Starck and Garouste & Bonetti. Aspects such as elegance, harmony and proportionality stand among the main concerns of French practitioners.

Slavic Design

In Slavic countries, the development of design was deeply connected to the social structure of the states. Design was not a means of promoting economic development, but was strictly oriented towards production enhancement and functionality.
This orientation was not just a theoretical or philosophical guideline; it was the basis of socialist industrialization. The setup also influenced all the other countries of the former socialist pool, including East Germany, Yugoslavia, Romania etc...

Anthropology

"Lo stretto legame fra la ricerca ergonomica e le condizioni di produzione nell'industria ha portato ad un rigido design tecnico-funzionale, che è stato tuttavia determinante per molti altri stati socialisti come la repubblica democratica tedesca."

"The strong link between ergonomic research and industrial production standards led to a rigid technical and functional design, that was however decisive for many other socialist countries such as the German Democratic Republic."

Design. Storia, Teoria e Pratica del Design del Prodotto
Burdek, Bernhard E.
2002
p132

Products were intended to transmit solidity, durability and simplicity. They were supposed to be equal for all citizens and yet demonstrate the austerity of the Government. In this sense, they were the complete opposite of products of Italic Design. In many cases, socialist slogans where imprinted onto items to reinforce the idea.
It's important to briefly note that the socialist pool was not composed exclusively by Slavic countries, but it was however controlled by them.

Lada Niva
AvtoVAZ, 1977

Zenit E
Zenit, 1967

Anthropology

Nordic Design

Although the Uralic invasion of Northern Europe had a strong influence on Nordic countries, the cultural formation of Norway, Sweden, Finland, Denmark and the few European countries that speak languages from the Uralic family, is not pure. It is a mix of North Germanic and Uralic.
As in the case of the Socialist Pool, and in a less evident way in all Germanic and Italic countries, there is not a pure cultural isolation, but the design formation (part Germanic /part Uralic) of the Nordic countries have a very distinctive orientation.
There, minimalism went beyond German functionalism and became aesthetics. In Denmark, Finland, Sweden and the other countries of the region, minimalism is a lifestyle. It seems to be a mixture of Germanic functionalism and the Uralic artisan traditions, which fit together perfectly with their ethnic formation. As a matter of fact, this minimal/essential way of integrating design with the world and with life can also be found in Asian cultures, which can also provide another key to interpretation, considering the relatively recent migration of the Uralics from Asia. Even in countries that showed a less significant development in the field of design, such as Norway for example, the characteristics of Nordic Design are quite evident.

Savoy Vase
Alvar Aalto, 1936

Ball Chair
Eero Aarnio, 1965

Anthropology

"Il Design Scandinavo è inteso come forma di vita. Linguaggio formale ridotto, processi di produzione semplici, capacità d'uso durevole del prodotto, anche in Norvegia, sono queste le caratteristiche importanti per il design"

"Scandinavian Design is intended as a way of life. Reduced formal language, simple production processes and durability, are also the most important characteristics for design in Norway."

Design. Storia, Teoria e Pratica del Design del Prodotto
Burdek, Bernhard E.
2002
p. 128

The evolutionary perspective

As human culture has evolved, the number of variables, aspects and elements to be analyzed have increased exponentially, not just because of the recent cultural blend that began with telecommunications and transport technologies
The numerous layers of evolutionary processes, contact, isolation, mixture among populations, varying levels of control of a society, Government, political dominance, social concerns and religion, lend the system a level of complexity that should not be ignored. Rather, they must be accepted as the most important and beautiful aspects of the human evolutionary ecosystem.