DESIGN AND PERCEPTION IN CERAMICS

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Laws of Surface Design

The earth, for us, is an enormous orb on which we live. However, seen from afar, from somewhere out there in the universe, the earth becomes a tiny point, like a distant star.

A point is the smallest design unit there is.

On setting points in a row in a certain direction, we first get a dotted line. On densifying these points, the line becomes solid and continuous. On adding these lines in a transverse direction, progressive densification will yield **a surface.**

If a human being were put in a flat, empty desert, his sight would lose itself in nothingness - somewhere out on the horizon. Placing a simple wall or white sheet of glass in this empty space, would immediately attract his attention. If this surface were also artistically treated, the effect would be even greater.

In a word: **A surface is a force!**

A force that must be understood in its direct relationship to man.

If we wish to design with ceramic materials, we have **a reticulate surface** at our disposal as a result of the material involved, as ceramic tiles can only be fabricated in units of a certain size, and extension across a surface can only take place by adding this individual shape, according to the possible directions for addition. Reticulating in squares is the easiest option for extension and exhibits certain characteristics:

1. The Unit

A unit represents at the same time a totality. As a closed whole it always suggests **perfection.**

A unit can be a **full or empty surface**. This can only be distinguished by contrast.

A room tiled in a plain colour, whether this be black, white or another colour, always becomes a uniform exposition of the material in its formal aspect. This will give rise the room a certain amplitude, but it will also be boring.

Different-sized units will allow us to influence once more a room's surfaces.

2. The Dominant Element

The dominant element is a **single representation**. A small contrast suddenly **dominates** a generally much greater surface. This **striking effect** is **quite enchanting and focuses all the (visual) forces upon itself.** On comparing its small size to the great surface area it contrasts with, it may be inferred that: Less is more! This small element dominates everything and therefore becomes «more».

A single, broadly designed decoration in a bathroom thus attracts all the attention.

3. Polarization

Polarization **subjects forces!**

A **field of tension** arises between **two poles**. These poles can lie to **right and left, above and below,** or may lie **diagonally** opposite each other. Our globe, with its North and South Poles as external boundaries is such a field of tension. Polarization should not be confused with symmetry, although they resemble each other.

4. Row Settings

Setting elements in rows is the **most widespread** design strategy, but is in its own way **monotonous and boring.** It only becomes **interesting** when **one of the elements breaks out of line**. Rows can lie in every direction: horizontally, vertically and diagonally.

They usually appear in bathrooms as borders.

5 Rhythm

Rhythm is an up and down movement. It is of great **interest** because **it moves**. High and low take turns in different dimensions. But careful! There is also a uniform rhythm that can once again become very repetitive and boring. (tick tock, tick tock).

6. Sets

Several **identical items** are always found in sets. They are unions of **equivalent things**. Interesting designs can be achieved with these multiple units. Although the elements are similar, differences can be discovered if they are examined individually.

For example: a group of people.

They are all people - but each is different from the rest.

Or: a group of decorated ceramic tiles, of the same kind, but each is different.

7. Simple Symmetry

Symmetry is a **reflection**. It exactly reflects the «one» on the other side of the **reflection axis**. The distance of the object to the reflection axis is the same on both sides. This design unit pleases and is adopted for its **balanced effect.**

8. The Cross

A cross always involves a **double symmetry**. It **brings together horizontal and vertical,** also in diagonal applications. A highly **uniform, quiet, balanced** effect is obtained. **All the forces are in harmony together**

9. Proportion

Proportion involves **size relationships among surface parts**. To this design lexicon belong words such as **broad and narrow. Erroneous proportions** tend to **weigh down or lead to imbalances** that can destroy surfaces. **Harmonious surface relationships** can greatly enhance a surface effect. The **golden section of a line,** for instance, is an **ideal measure for distributing proportions**. The total surface area is divided into 13 parts, **the majority** is given **8** parts and **the minority 5**. The 5:8 ratio is **ideal.**

10. Frames

A field is clearly defined in a frame. It **bounds** the field and thus defines and describes it. Everything that lies inside a frame is usually considered **important.**

11. Reticulation

Reticulation ranges from regular connecting points to irregular ones. It has the effect of **covering the surface, dividing and fixing it.**

12. Travel

In a travel, the **contrasting colour** slowly changes **into the empty colour**. This leads to **movement,** which may even under certain circumstances **deceive the eye**. This three-dimensional effect creates **depth** and **thus suggests space.**

13. Change

In the case of change, regularity is suddenly interrupted. A formal unity is broken. This **imperfection** is striking. A change is **unusual** and generally has a highly **dynamic** effect.

14. "Free Forms"

Man can **hardly ever influence** free forms. They are nature's forms, which have **grown organically**. However, we enjoy letting ourselves be guided by free forms and imitate them in design.

15. Accumulation

In the case of accumulation **different elements are brought together**. Although this design option often arises, it is not widely used in ceramic pieces. As these elements can be brought together in different ways, **ordered arrangements and disordered arrangements**, chaos, can be distinguished.

16. Chaos

Chaos **contains everything in a mixed, disorderly way** and there is no apparent or clear relationship among the elements. Chaos can be used consciously as a design option, and can have quite a positive effect, in controlled applications.

Slide 1

Title: **Laws of surface design**

Subtitle: **(Also a school of perception)**

Slide 2

The earth in our cosmos, here enormous, in reality a point in the universe.

Slide 3

A point is the smallest existing design unit. On setting points closer and closer to each other in a row, we get a line. On putting these lines that form a first dimension in a row, a surface is found.

Slide 4

In order to demonstrate that this is not just theory, we have here a picture of Anatolia, showing telegraph poles like lines that grow together like a solid wall in the distance.

Slide 5

Imagine yourself in a solitary place, in a desert. Nobody and nothing about. The eye quite loses itself on the distant horizon.

Slide 6

Now imagine a wall raised in the desert. This surface immediately impacts the human being so strongly that he feels influenced by it.

Slide 7

Imagine further that the surface is decorated. This makes its impact even stronger. It may therefore be stated: a surface is a force! It has a striking effect on man.

Slide 8

Design Vocabulary

Just as man can by his voice and words use a certain language, a designer can employ a certain design vocabulary, which to some extent follows laws, ranging from unity to chaos.

Slide 9

The Unit

Here the unit is a red square. As this square is filled with colour it is designated a full surface. Below it, it can be seen that it could also have been an empty surface, if it had been a basic white colour. Contrast really does not affect a unit. A unit is always a closed whole; it has a wide-reaching, perfect effect.

Slide 10

Here I have drawn a small bathroom for you; it will be modified several times throughout this exposition.

In this case, it was tiled in clear, plain coloured tile sized 20 x 20 cm.

Slide 11

The same room with a division sized 10 x 10 cm. The separating joints are also observed to set free certain forces.

Slide 12

Now a full surface is shown. Joints are clearly observed to have a dividing force.

Slide 13

The same effect, now in a project for a large swimming pool, in a basic white colour.

Slide 14

The dominant element

A dominant element is a single representation. It attracts attention and dominates the surface. Where a dominant element is involved there is always a wide surround and attention focuses on that little surface. It is often extremely attractive. The dominant element could also be defined as «less is more», since this small surface contrast commands the whole surface.

Slide 15

To become better acquainted with design vocabulary, some pictures have been prepared to illustrate this effect. This picture shows a huge wandering dune, and the tiny man walking across its crest logically attracts special interest.

Slide 16

In this case it is the little plane against the immense blue heavens, which attracts our attention.

Slide 17

A great many stick figures have been drawn. The one drawn in colour strikes us.

Slide 18

An elegant coat held by a single button that stands out clearly from the cloth because of its lightness.

Slide 19

Some ceramic materials are shown containing a blue crystal that clearly dominates the surface.

Slide 20

Once again we see our little bathroom. The only decorative element to be found in this white space is a blue tree.

Slide 21

A private swimming pool wholly clad in white tile. Only in the left corner of this space is there a decoration that attracts all our attention.

Slide 22

A turn-of-the-century building with an appealing floor tiling design in which a medallion clearly stands out for its lightness.

Slide 23

A detail from the Cairo underground. Mosaics are arranged in a wide setting, showing for example Nefertiti's head.

Slide 24

This building stands in Vienna. It is the «Amalienbad» that also belongs to the turn of the century. In one of the pools there is a pretty medallion that commands the surface of this swimming pool.

Slide 25

A public toilet made up of a combination of ceramic materials and natural stone. Here too, there is a medallion that has also been set in a frame, which clearly dominates the paved surface.

Slide 26

Polarization

Polarization means subjecting forces. Left and right, or above and below: these are the determining elements. Polarization is opposition; just as the North and South Poles are opposites. Between the two poles arises a field of tension, which can greatly profit creation.

Slide 27

A glance into a halogen lamp with its positive and negative poles right and left, and in the middle the tension discharge: light.

Slide 28

A street. The field of tension is bounded right and left by woods. Movement is only feasible in the field of tension.

Slide 29

An advertisement with an enormous hamburger. The hamburger is also a typical polarization as between the two halves of the bun lies the meat, right in the field of tension.

Slide 30

Here again we have our little bathroom and you can see two blue stripes along the side of the bath, which in a certain way represent a polarization. A decorative element has also been placed in the middle, that is, in the field of tension.

Slide 31

The situation in a small bathroom. Not only does the decoration to right and left of the mirror form a polarization, so do the two lamps and the two jutting elements, which include both mirror and washbasin.

Slide 32

A similar situation is observed. The washbasin and the mirror are clearly bounded to right and left, which is obviously a polarization.

Slide 33

A hotel swimming pool, with a ceramic design with quite a lot of movement. The coloured pieces have been arranged in such a way as to obtain a concentration of blue close to ceiling and floor, while the pieces with the warmest colours are to be found in the field of tension. Therefore, a polarization between top and bottom.

Slide 34

In this rather unusual bathroom, a polarization between top and bottom can be recognised.

Slide 35

I shall now invert this polarization and locate the contrasting stripe in the centre. This stripe now represents the field of tension and can be observed to change the visual appearance of the room quite considerably.

Slide 36

In this instance, a contrasting stripe has been shifted towards the floor. This makes the space opener towards the top.

Slide 37

Another change. The contrasting stripe has been shifted towards the ceiling. It seems to optically «oppress» what happens in the room, that is, the room looks much smaller than when the stripe lay near the floor.

Slide 38

Once more we have our little bathroom. It is now decorated with vertical stripes. This makes it look higher than it really is.

Slide 39

In this case, the stripes have been placed horizontally. The room does not look so high, instead it looks much wider.

Slide 40

In this water supply facility, the walls were mainly decorated with vertical lines corresponding to the water pipes.

Slide 41

This shows a corridor connecting two office buildings. Stripes have been placed horizontally, which makes this space appear pressed down and it looks as though one could be «beamed» through like a flash. The feeling of speed is quite marked in this case.

Slide 42

An attractive house entrance. The horizontal stripes form a whole with the steps. The space gives an impression of calm in spite of the striking images.

Slide 43

Having dealt with horizontal and vertical stripes we now come to diagonal ones. This shows the famous Centre Pompidou in Paris. The facade is commanded by vertical and horizontal lines, and especially by the diagonal that follows the escalator. A diagonal line has an extraordinary force in a design.

Slide 44

This kitchen clearly illustrates my meaning, as the white diagonal surfaces dominate so strongly that it can hardly be considered well-designed.

Slide 45

We remain in Paris. A picture of the underground station La Defense. Diagonal lines have been used with much greater care here, and it shows how they can become an important factor in design.

Slide 46

Row Settings

Setting elements in rows is probably the most widespread kind of design. Pieces are added, one after another; this has a monotonous, uniform effect, to a certain extent even a boring one. Setting elements in rows can take place vertically, horizontally and diagonally. If an element breaks out of line, the composition can become much more interesting. The monotony is interrupted, which is really a case of change. The subject of change will be subsequently dealt with.

Slide 47

Here stand the rows. The Queen's Guard. One man next to his fellow, one row next to another.

Slide 48

A string of pearls is an obvious example of elements in a row as a design strategy.

Slide 49

Former cultures have also used arrangements in rows as design elements, as the picture of TUTANKHAMEN clearly shows.

Slide 50

Arranging elements in rows appears everywhere, for example in clothes, as here in the tie, and in the pin

stripes in the trousers.

Slide 51

A piano keyboard. A nice example of an array of elements in a row.

Slide 52

This hanging bridge also exhibits an organization of elements in a row, on the one hand the steel cables of the supporting construction, and on the other the dividing lines on the carriageway.

Slide 53

In ceramic design a border is usually referred to when row settings are involved.

Slide 54

This picture also comes from the «Amalienbad» in Vienna. It shows row arrangements, both single and double.

Slide 55

This picture also clearly shows row settings: on the one hand in the light and dark strips on the flooring, and on the other in the change from ceramic floor tiling to carpeting. The suggestive pictures in the background and the lamps have also been set in rows.

Slide 56

The padded borders dividing this wall tiling are also made by arranging elements in rows.

Slide 57

A design involving a mix of ceramic materials and natural stone is shown. This picture also gives a good example of arrangements in rows.

Slide 58

The lobby of an advertising agency. The whole back wall is made up of elements in line.

Slide 59

Rhythm

Rhythm is characterized by rising and falling, high and low. It is a «moving» design unit, which can also be quite exciting. However, a rhythm may become boring and monotonous if repeated uniformly.

Slide 60

Nowhere is rhythm more clearly perceived than in music. Feet at once start tapping, moving up and down.

Slide 61

I hope nobody will suffer what is shown here: this is an infarct of the myocardium. These are the rhythmic

lines of our heart circulation system.

Slide 62

Skiing can become a special experience when descent takes place at top speed with elegant, rhythmic movements.

Slide 63

Buildings can also exhibit rhythmic movements if the facades are appropriately designed.

Slide 64

A certain rhythm can also be achieved by putting together ceramic pieces of differing size like these which have been installed with a special rhythm.

Slide 65

Our small bathroom. This time the ceramic tiles have been arranged in a straight line in the lower part, while a wavy line has been installed above.

Slide 66

Lines allow rhythm to be recognised much more clearly.

Slide 67

In this case our little bathroom has been decorated with a monotonous rhythm.

Slide 68

A uniform zigzag line shows monotony.

Slide 69

The wall tiling in this gymnasium has been arranged so cleverly that rhythmic lines can be discerned.

Slide 70

This tiling shows a nice zigzag line, which is however at the same time rather boring.

Slide 71

Sets

In dealing with sets, similar things are always involved. They are always different items of a unit, or the union of identical things.

Slide 72

Here a group of people are involved.

Slide 73

This shows a set of very specific frames of houses.

Slide 74

These wooden heads are really small works of art. They are brooches that may be fixed to lapels or a blouse. But together as a group, they represent a set of heads.

Slide 75

The back wall of our bathroom has been decorated with a group of elements.

Slide 76

This flooring shows a set of tiles in different colours, which have been installed diagonally.

Slide 77

In this modern bathroom, combining ceramic and natural stone, a group of square pieces has been incorporated in the flooring.

Slide 78

A hotel swimming pool with checker skirting. A group geometric bodies appear fly to above it through the air.

Slide 79

A shoe store where the flooring is made up of a combination of ceramic tiling and steel. The steel pieces form an independent group.

Slide 80

This aerial photograph shows some flamingos crossing a marshy area in a relatively uniform formation. The group has become the dominant surface element.

Slide 81

This girl's skin is covered in freckles. These coloured spots also form a set with a relatively superficial effect.

Slide 82

In this kitchen, the decorative elements have been arranged in groups in the wall tiling.

Slide 83

Ultimately, the effect of these sets can achieve a relative surface dominance, as in this collective kitchen.

Slide 84

Symmetry

Symmetry is always a reflection, that is, the same element is always found to the right and to the left, above and below the reflection axis. This creative possibility inevitably has a highly balanced effect.

Slide 85

The photographer has put the girl on a mirror. The symmetrical axis is clearly visible.

Slide 86

Spectacles are a typically symmetric object.

Slide 87

Many English gardens have been designed on symmetrical axes.

Slide 88

This window also has a symmetrical axis, going right through the centre.

Slide 89

In our little bathroom, the back wall to the bath has been decorated with two little birds facing each other.

Slide 90

In this example symmetry is achieved in different places.

Slide 91

This clearly shows a real symmetry and two reflected symmetries.

Slide 92

This is the entrance to the underground station in Cairo. The ornamental design in the wall tiling has been arranged symmetrically.

Slide 93

A old modernist style house, with a tiled facade. The symmetrical axis passes through the centre of the house.

Slide 94

The symmetrical axis is marked here in the paving with a line made up of dots and dashes.

Slide 95

In the case of this subway, the decorative stripes lie symmetrically opposite each other.

Slide 96

The Cross

A cross is always a double symmetry! A cross brings together horizontal and vertical elements, although it can also be formed in a diagonal composition. In this double symmetry, the forces lie in harmony and it has a persuasive, calming effect.

Slide 97

The points indicating highway crossings are usually highly characteristic landscape features.

Slide 98

In the case of these attractive Portuguese ceramic pieces, the double axis plays a decisive part.

Slide 99

The fashion designer Givenchy, created a logotype for his company in the form of a double symmetry.

Slide 100

French landscape gardens are often arranged along symmetrical axes. This little castle is Karl Lagerfeld's modest home.

Slide 101

This is a swimming pool on board an ocean liner. The bottom of the pool was designed in the form of a cross.

Slide 102

A car showroom. In this case as well, the flooring was designed with glazed tiles and natural stone. A small and large cross can also be seen here.

Slide 103

In this wall tile design in a Trade Fair stand, a cross is also clearly visible.

Slide 104

Proportion

Proportion relates sizes. Large and small, wide and narrow, majority and minority play a role here. A proportion is most effective if the golden section can be used. In the simple procedure a division of eight to five parts is involved, yielding a total of 13 parts in all. In this case, the proportion achieves the most harmonious effect. In the example shown, below to the left, with a ratio of 6:2, the largest part has a predominant effect. In the example in the centre, with a 1:1 ratio, the proportion is rather boring, and on the right lies another harmonious relationship with a ratio of 8:5.

Slide 105

These letters lie in proportional relationships. Now large, now small, now wide, now narrow. The result

is a very attractive graphic.

Slide 106

A very nice photograph of a spider's web. Along the threads lie different sized drops of water that are proportionally related.

Slide 107

Our little bathroom has been proportioned on differentiating the jutting wall with dark blue pieces. The separation involves a ratio of 1:1 and therefore has quite a boring effect.

Slide 108

In this hotel bathroom, the wall surface is divided by a line in two proportional halves.

Slide 109

In this charming old house, the wall tiling is pleasantly proportioned with regard to the total wall height.

Slide 110

In this drawing, which was the design for a hotel swimming pool, various compositional elements are involved. The swimming pool has a travel that will be gone into further on. The wall design is achieved by the so-called «Trompe d'oeil» effect, in which the two window opening sizes lie in a proportional relationship.

Slide 111

This little bathroom is also divided in such a way that the two wall halves are held in a proportional relationship.

Slide 112

In this exposition unit, the dividing line exhibits pleasant proportions.

Slide 113

Frames

A frame bounds a field. The frame fixes and clearly describes a bounded surface. On the one hand a frame acts as a definition; however, in some cases it can become constraining. Framing can be carried out in different ways.

Slide 114

This facade is clearly dominated by framing as a design element.

Slide 115

A frame has been installed both in the flooring and in the wall tiling behind the bath in our little bathroom.

Slide 116

The symmetrical composition with the two birds has been bounded by a broad frame.

Slide 117

The design of this swimming pool wall is basically made up of frames.

Slide 118

This shows the mosaics installed in the Cologne Cathedral. Here, various round limiting designs can be observed.

Slide 119

Frames prevail in this Roman mosaic flooring.

Slide 120

Reticulation

Reticulation is always a multiple division and therefore tends to cover the whole surface. All the starting points are connecting nodes.

Slide 121

This Irish landscape is reticulated by small walls.

Slide 122

Aerial photograph. A landscape in the United States with huge fields that somehow appear to be linked by a network.

Slide 123

Reticulation was used in this piece designed by Wolfgang Joop.

Slide 124

On this occasion, our little bathroom has been tiled by reticulating the surface with individual pieces.

Slide 125

In this instance as well, the reticulation that is proportionally present in the lower part is clearly visible.

Slide 126

A public toilet designed in the 60's, that is, at a time when the whole surface used to be clad. In this case the entire surface also appears to be reticulated.

Slide 127

The reticulated structure of this tiled surface was achieved by using different individual elements.

Slide 128

Checkerboard design is synonymous to reticulation.

Slide 129

Travel

Travel is generally a contrast moving from dark to light. It creates a feeling of depth and therefore of 3-D. It is especially effective in deceiving the eye.

Slide 130

The natural progression from light to dark is clearly shown in this snake skin.

Slide 131

A shower in private swimming pool. The cylindrical shape dematerializes as a result of the travel.

Slide 132

This facade design also shows a very attractive travel.

Slide 133

The swimming pool at a beauty farm, designed by Michael Graves. Travel is moderately used.

Slide 134

Change

If a perfect shape is altered at one of its edges, that is, if its shape is affected, this will be quite striking. It will look imperfect and unusual, but visually quite dynamic.

Slide 135

In our little bathroom, introducing mosaics that cut into the tiling, noticeably impacts the regularity of the finish.

Slide 136

In this menswear boutique the impacting element lies in the flooring. It cuts across the floor and is striking in its difference.

Slide 137

In this discotheque in Barcelona, the wall tiling has not just been altered, it has been shattered.

Slide 138

In this case as well, a mosaic element affects the tiling.

Slide 139

This boutique belongs to Jean Paul Gaultier, one of the most famous fashion designers in Paris. He installed mosaics like fragments in the cement flooring. The flooring is fragmentary and varied.

Slide 140

Free forms

Free forms are always natural forms. A free form grows organically and develops freely.

Slide 141

Above the San Francisco Golden Gate Bridge lies a cloud whose form is unaffected by man. It is a free form.

Slide 142

The Caribbean landscape is made up of a group of islands with free forms.

Slide 143

It is quite difficult to design free forms with ceramic materials; the pieces must usually be broken and then joined organically as in this mosaic by Marc Chagall.

Slide 144

This shows how mosaics are installed.

Slide 145

The wall tile design in this foyer is made up of freely invented organic forms.

Slide 146

This mosaic also shows free forms, that is, people.

Slide 147

A completely different picture of people. It was made up of regular little pieces just as a computer would make it.

Slide 148

Accumulation

In an accumulation, there are always several different elements involved at the same time. These varying elements can be ordered as we see here. The opposite would be a disordered accumulation, as shown in this little picture below.

Slide 149

This tiling involves different elements which have been arranged in such a way as to produce tension.

Slide 150

This tiling also includes various elements.

Slide 151

The design proposal for this swimming pool is based on the design unit: accumulating different elements.

Slide 152

Chaos

Chaos is characterized by disorder. Accumulation is disordered. The same elements moving here freely in great confusion are seen in an ordered arrangement in the small picture below.

Slide 153

Once again, chaos has been used as a design unit and there must be people that feel comfortable in this chaos.

Slide 154

Deconstructivism is a design concept that has found wide acceptance among young architects. This is a bar designed by Zarah Hadit, an Irani architect.

Slide 155

A unique chaos, by this artist that lives on the «Côte D'Azur».

Slide 156

Absolute chaos.

Slide 157

Not just the living, but also the sleeping quarters.

Slide 158

The platforms at the Metz railway station were chaotically designed.

Slide 159

Here we see a toilet designed by the famous designer Philipp Stark for the New York Paramount Hotel. Although its reticulated surface is adequate and perfect, the colour arrangements are disconcerting and chaotic.

Slide 160

This shows the whole design vocabulary together in a reticulated surface. From a full surface to an empty surface, with point and line, stripe and checkerboard, from reticulation to symmetry. I hope to have initiated you a little in the secrets, that is, in the laws of surface design.