

## **ABSTRACT**

### **The importance of form**

Initially, my objective was to explore the relationship of light and plasticity. In the course of my research it transpired that I was interested in light and form in a more universal sense, and through the relationship of the two I was studying the relation of intellectual content and material embodiment. The inseparable relationship between form and content, form and intellectual quality is evident in everything. I realised that in the course of everyday life we are little aware of the significance of form in this sense, yet we ought to be. Here is an example from everyday life: we disregard the importance of the shape of pasta dough. Macaroni and vermicelli are made from the same dough, yet the end result and taste will be completely different.

### **Perception**

Our organs of senses primarily enable us to perceive forms that can acquaint us with intellectual/spiritual/mental contents. The perception of form is generally achieved by means of sight (eyes) and touch (skin). Consequently, surface assumes an important role; since in the course of perceiving form, it is usually the surface of things we skim with our eyes and hands. The two means of perception produce different images. Following the rules of perspective and the distortions it involves, the space perceived by sight is organised in a way that is different from real space, yet we continue to rely on it as a basis of orientation. Touch is used to a lesser extent for spatial orientation and serves the perception of invisible things, such as the temperature of objects. At the same time, our skin has a crucial role in perceiving mental/spiritual qualities, sending a chill down our spine or giving us shivers. Consequently, we regard the eye as a more rational organ of sense and skin a less rational one. In spite of this, visuality assumes a role in perceiving phenomena of a metaphysical nature, such as the mental/intellectual space surrounding sculptures or the aura of sculptures. Our sight will signal to us if a sculpture is 'crammed' in its given space, while a sculpture of the same size might feel 'lost' in the very same space.

### **Double perception**

In the course of studying the relationships between mental/intellectual and material qualities, I became aware of situations where our two main senses, touch and sight, were not in sync –they made us perceive completely different things. One such instance was in a group of my sculptures where the works disregard the form and spatial extent of the portrayed object and draw on

elements of the prospect created by light (tone, light, shadow). Another instance was my transparent sculptures where touch is still confined to the surface; however, sight – together with the light – is afforded free entry into the material. In the first case we are taken to assume the sculpture has a physical dimension that does not in fact exist, whereas in the second case the existing physical boundaries cannot be clearly perceived, since the material is transparent. This is a case in point of the fact that in sculptures with a disparity in form depending on whether perceived by touch or sight undergo structural alteration that entails mental/intellectual/spiritual changes, crucially the following:

1. Transilluminable reliefs are characterised by the fact that depending on whether viewed from the front or the back and the angle of illumination, they afford a different image. The passage and position of the Sun will produce a continually changing transilluminated image.
2. Transparent reliefs bring together the positive and negative version of the same form. This is revealed when the negative form of the same relief can be seen from the reverse side of the sculpture.
3. The peculiarity of transparent sculptures is the fact that light can enter the material, revealing, in addition to the form of the work, its inner space and forms. It presents an opportunity to see inside the material.
4. In transparent sculptures, equally important is the phenomenon whereby the space behind the sculpture is included in the sculpture itself. In classical sculptures, the space behind is invariably blotted out. In this case, however, the space behind is not only visible, but assumes an important role, becoming an integral part of the sculpture, inherently part of it.
5. Often when our sight penetrates the transparent material or sculpture, it will not follow a straight path. A familiar instance of this is when walking in the street we see our own reflection in shop windows, or the items on display, or both. This phenomenon is related to refraction or reflection. It is not the space behind the object we enter when looking into the object, but rather, the space adjacent to the object – or we see ourselves in front of the object. In this respect the material is not transparent but permeable, now opening up, now closing and occasionally diverting our course.
6. The creation of transparent sculptures involves focusing not only on the mass, external form and the surrounding space of the sculpture, but the shaping of internal forms, the effects of shifting light and the consideration of how the surrounding space will influence the object when parts of it enter the sculpture.
7. One fundamental feature that distinguishes sculpture from painting, and two-dimensional art in general, is the fact that it has a material presence. It has a scope in space that is touchable. It is tangible, not only perceptible. Where from the point of view of sight the physical presence ceases to exist or

dissolves, the sculpture will, to a certain extent, become a virtual object. In the same way, giant sculptures will also become virtual objects in that perception of their form is also impossible by means of touch.

### **The interpermeability of spaces**

Through my sculptures I seek the interpermeability of different qualities, that is the passage between the worlds underneath and beyond the basic surface; in transparent sculptures between the worlds outside and inside the material; in works immersed in water, the passage to and from the air space above the water (dry land) and the under-water world. In sculptural terms, water differs from air only in density, given that both are transparent substances that do not possess tangible form. In this respect water, too, is a virtual material, since it trickles from our hands and its ripples cannot be touched. Moreover, since it is completely transparent, we cannot perceive it in certain conditions. Nevertheless, we are very familiar with water, and our familiarity with its properties makes it an ideal means for modelling and physically rendering intellectual/mental/spiritual existences.

Rendering intellectual/mental/spiritual things in material form amounts to understanding them. That is the significance of the visual arts; they project the world in terms of images, enabling us to see and, consequently, understand, them.

While examining boats and other objects half-immersed in water, I realised that from an under-water perspective, the world above water is two-dimensional. Conversely, from the same perspective, the world is three-dimensional. Coming up from under the water, however, reverses things and the under-water world becomes two-dimensional and that above the water surface three-dimensional. The phenomenon reverses the moment we submerge. Naturally, the two-dimensional prospect is only two-dimensional in character, and various distortions flatten the space depending on our relative position. In any case, the structure is a good model of actual change of dimension. The phenomenon is most clear-cut near the two qualities meet, that is, near the surface of the water. Most importantly, the process is reversible. The objects present in both spaces in both qualities, like a boat half-immersed in water, lead from one space to the other. The same happens to the nose of the boat viewed from under the water, as does to the stern viewed from above the water, from the air. Accordingly, the process does not depend on the material, since the same happens to it from either way. The phenomenon depends entirely on the difference in density. The shift between two materials of different density will produce a change of dimension, while this change of dimension is no longer perceptible to the viewer present in a space of the same density. Looking at the participants in spaces of identical densities, the change of dimension will not take place, but will reappear when looking at a space with a different density. The apparent change of dimension where water meets air does not depend on the relative position of the objects in each of the spaces. However, our relationship with the plane separating the dimensions will have a

powerful influence on the occurrence of the change of dimension. Knowledge of the laws governing the change will help the harpoon fisher in consciously making the shift from one dimension to the other, and hitting his target. The change of medium in the context of water and air is a good example of the change of spatial dimension. When an object is immersed in water, the part under water changes form when viewed from above water. Also, however, it conveys information about itself, making the change of dimension reversible, yet enabling further changes of dimension. The two-dimensional image can be transformed into a three-dimensional one and vice versa.

### **Change of dimension**

The change of dimension has to be a reversible process. The shift from three-dimensional to two-dimensional must be possible after passing the boundary, and the two-dimensional must also be able to 'return' to be three-dimensional again. Accordingly, seeing only one version must enable us to 'reconstruct' the other. The features of the object cannot essentially change in the course of changing dimension. It must always carry information that defines – and preserves – its unchangeability and essence irrespective of the dimension.

I believe that the two- and three-dimensional spaces in the Universe should not be conceived as isolated, non-contextual forms of space. More precisely, two-dimensional space might be conceived as a form of three-dimensional space where the third dimension appears in condensed form. Consequently, the other dimensions (fourth, fifth etc.) are present – condensed or compressed – in the three dimensions. The dimensions are condensable into one another or even a single point, and can be extracted from this single point. The number of dimensions is in all probability endless, but any number of dimensions other than three (four, five and even one and two) is practically inconceivable to the human mind. Consequently, both the two-dimensional and the three-dimensional forms are condensations of real, full spaces that can be extracted or further condensed.

Change of dimension is an essential feature of everyday life, and it is 'used' on a daily basis. Changes of dimension, however, do not necessarily occur consciously. The reason is that we are inherently able to perceive certain things outside of the three-dimensional concept of space. One such phenomenon is the Universe that we perceive as the sum of the celestial bodies on the spherical layer of the sky. The constellations and phenomena of the sky form the basis for measuring time and for nautical orientation. In reality, however, there is no connection between the individual elements of the constellations. The various elements of the constellations are seen to exist at the same point in time and in the same point/plane in space. The individual stars, however, are completely scattered in space at distances from each other that are inconceivable to the human mind. (For example, the distance between Betelgeuse and M42 (Orion Nebula), two elements of the Orion constellation, is 712 billion times the Sun-Earth distance.) The visible images of them, due to such large distances, are thousands or even hundreds of thousands of years

apart (if we look up at the sky, we see the light of Betelgeuse from 470 years ago, while the light of M42 dates from 1600 years ago).

In summary, the world is constructed in a way that gives us a two-dimensional visual image of the Universe, with the knowledge that it is a three-dimensional spatial unit. Consequently, Earth-dwellers have the gift of seeing the Universe this way. The change of dimension presents us with a system of codes enabling us to establish relationships in space and time. These relationships would certainly remain hidden to us without that system of codes.

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