DIS
COVER

Of unusual encounters

Quantum physics is a branch of science that studies the law of physics at very small scale. It allows to explain small particles like atoms or electrons, and helps understand the matter.

In this project we approached quantum physics with the vision of designers. Within this catalogue, you will find an assembly of everyday objects, clustered in such a way as to illustrate three different areas of quantum physics. The first chapter deals with states of matter. The second one illustrates the behavior of particles. The third chapter takes these same particles apart, to analyze their deepest structures.

This work does not attempt to explain quantum physics, nor does it teach about it. Rather it enables the reader to draw parallels between the realm of quantum physics and the everyday world. The objects surrounding our quotidian life are in fact as incongruous as the sometimes frightening absurdity that lies within quantum physics. Our collection or catalogue of objects reflects upon these parallels to creates a new order.

Each image in this collection is followed by a complementary text. Neither image nor text could exist alone. Each adds to the other. Following this principle, the catalogue is divided into three chapters. Each chapter is marked by a different background color, title and style of writing that creates an evolution of complexity for the reader to assimilate.

We start with objects that reveal the possibility in quantum physics of a superposition of states. This is coupled with a style of writing that makes use of figures of speech that carry double meanings, in order to illustrate the principle of superimposition in a textual way.

The second chapter reveals objects related to the tunnel effect in which quantum objects are able to go through barriers. The texts that accompany the images use a poetic style of writing. This poem carries a deeper sense of meaning, allowing for a greater complexity of understanding over the course of the chapters.

The last chapter illustrates objects analogous to the shape of electrons in atoms. The complementary text is written in a detailed descriptive way, matching the study of matter and the intricate study of the structure of the smallest particles surrounding us, and thus, reaching the highest level of understanding.

You are about to see a collection of things you already know and which you maybe even have at home, but clustered in a at first glance unusual way - a counter-intuitive structure which gains sense by the turn of every page.

ENSCI 2013
Atelier Formes et Matières
Quantum Design
Alba Diaz Strum and Stefanie Schidlof

DUALITY

Any quantum object is both a particle and a wave.
If submitted to measure, the wave nature of the object
suddenly reduces to a particle with a random position
which depends on the wave shape.

Oxymoron :
juxtaposition of contradictory terms that
describe the same object

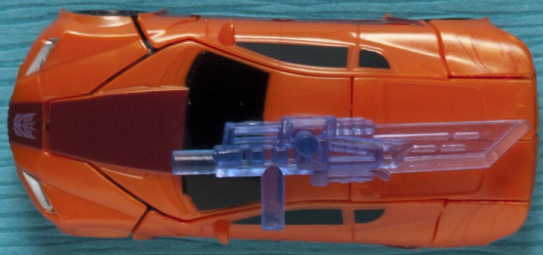
Antithesis :
juxtaposition of strongly contrasting ideas

Chiasmus :
juxtaposition of identical expressions in inverted order

Anacoluthon :
change in the syntax within a sentence

Hyperbaton :
separation of words that normally belong
together, to give greater emphasis

Catachresis :
invention of a term to describe an object for which the language doesn’t offer a proper expression



Hypotyposis :
description of a scene in a picturesque and vivid way

Paronomasia :
expression in which words similar in sound
but different meanings are used

Irony :
affirmation of the opposite of what one wants
to say

Alliteration :
repetition of one or several consonants

Metonymy :
substitution of an associated word to suggest
what is really meant

Antanaclasis :
repetition of a single word, but with a different meaning each time

Praeteritio :
overpass in silence of what one nevertheless
talks about

Personification :
attribution of human qualities to inanimate objects


MARVEL
1
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TUNNEL EFFECT

As a quantum object behaves live a wave, when it is thrown on a barrier, it sometimes has the ability to be on both sides of the barrier at a time. So that sometimes, it ends up crossing the barrier.

15

runaway cage, dispatched aroma

16

keep the yolk, throw the white

17

eject the milk to keep the beauty

18
refine fresh emerald

19

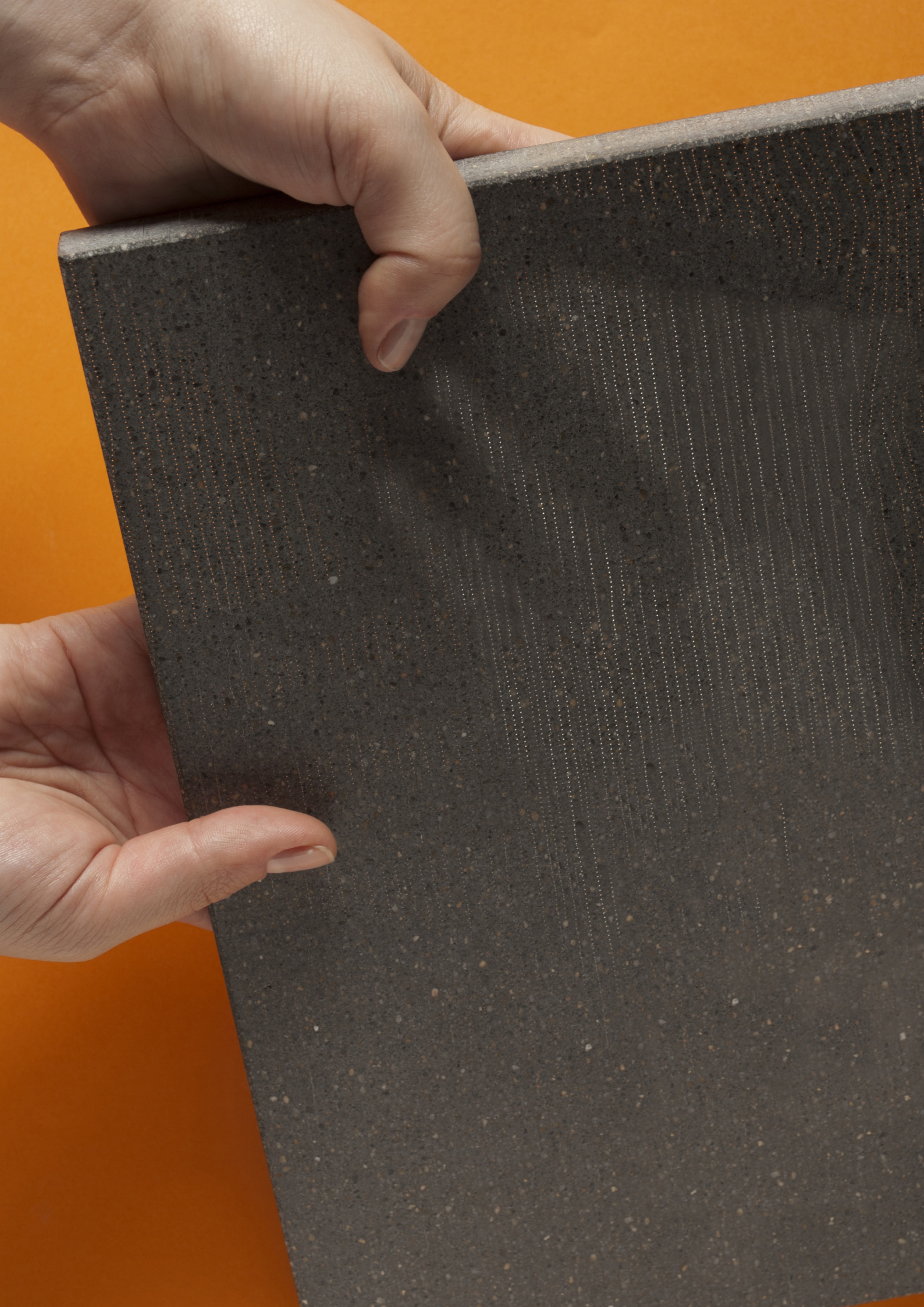
ground beach, decaffeinated wave
that carries bitter shells

20

extract the essence, neglecting the substantial amount, the true reason of existence of a fruit

21

disorder. translucent opacity.



STRUCTURE OF THE ATOM

An atom consists of a nucleus and electrons.
The nucleus is at the center and the electrons behave around it as waves with well-defined shapes.

Cord :
Circular form, at first glance.
By getting closer, the structure appears,
carefully wrapped, layer by layer, the rope
that creates the entire shape.

What seems to be made out of several
individual particles, is indeed one single
wave, occupying the entire sphere.

Vegetable fibre, bent within itself,
convoluted around one made-up centre, that
holds the structure for what it is.

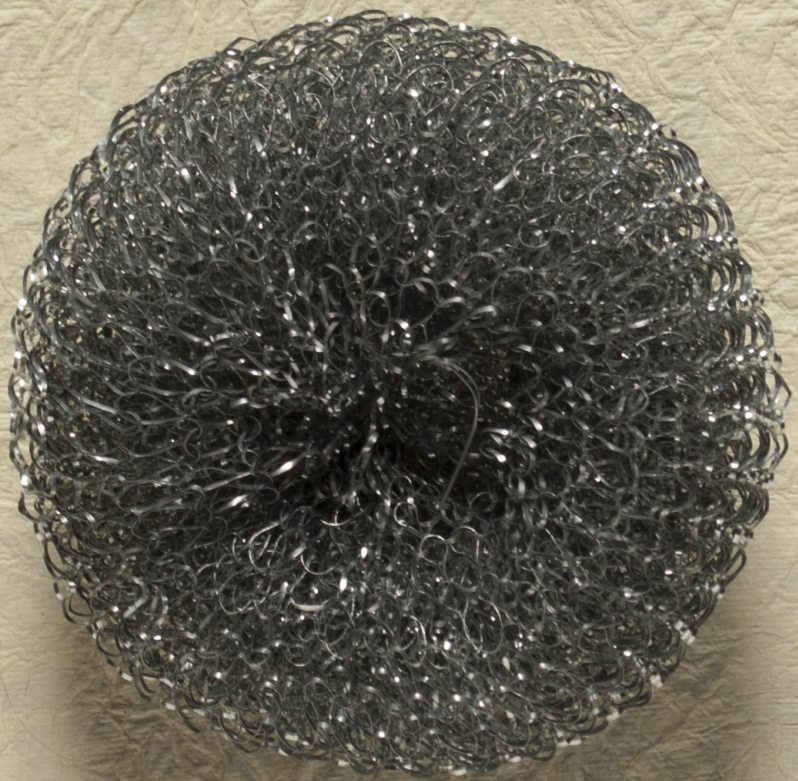
Shower sponge :
Smooth flower, light and soft.
Perforated leaves, connected by the ends to
the inner knot, creating great volume.

Turning and turning and passing through the
center, their individual softness is what
gives shape to one sponge.

Hairbrush :
Very long hair, short hair, flat and rare,
thick, thin and light, supple, bright, shiny,
frizzled, curly, wavy, frizzy, rebel, split,
brittle, sticky and dull.

Metal sponge:
Shiny rough dark sphere.
Thin lines frizzly composed, carefully
bounded, attached one to the other, but yet
with free space in between to breathe.

Small metallic softness;
strong enough for it’s purpose.



Wool :
Matter constituted of textile fibre, crimped,
elastic and clustered into stables.

Interlacing, the wool becomes a rope, that
shapes the sphere and leaves an open end.

3½
mm
3½
mm

Elastic ball :
From the outside, solid and compact. Like an object made out of one single element.

Objection. The colors vary.
When approaching, one can see a tangled network of elastics, holding on to each other.

Through their elasticity, their pressure, the outline is drawn. Each element carries it’s own color, it’s contribution to the whole.

Spaghetti :
Ingredients, durum wheat semolina and water.
Boiling time 6 min.

Independent individual lines,
arisen from the same dough,
Solid and fragile when dry,
soft and articulated when cooked.
And when cooked, a wave of lines,
interpolated,

Each component connected through their own
consistency, holding together,
becoming a mass.

Accumulation leading to one shape.
And as one shape the core of the dish.

Cotton candy :
From a distance, voluminous shape,
concentrated center and fuzzy edges.

On closer inspection one discovers the
curious texture. Wrapped around itself.
As light as a feather, as soft as a cloud.
What appears to be a heavy surface,
is in fact an almost empty substance,
that vanishes by the slightest touch.

An ensemble of sugar grains, a volume of
empty calories. Each crystal composed of
carbon, hydrogen and oxygen. Once turned into
cotton candy, becomes one single element.

ATELIER
FORMES ET MATIÈRES

QUANTUM DESIGN

THE QUANTUM DESIGN PROJECT IS A PARTNERSHIP BETWEEN THE ENSCI-LES ATELIERS AND PHYSICISTS FROM UNIVERSITÉ PARIS SUD AND CNRS.
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