CONCEPT
BOTANIC CODE
Jorinde Voigt 2009 / 2010

The characteristic features of a botanical garden are a combination of international vegetation, the reproduction of the whole world on a small scale, categorisation / scientific terms and establishment of definitions, research and the preservation of species.[1]

For the concept BOTANIC CODE, I take a walk through the local botanical gardens of every city to which I come as a result of my professional and private travels over a period of 12 months (November 2009 to October 2010).

To date, I have produced BOTANIC CODES on the gardens of the cities Sydney, Berlin, Göttingen, Mexico City, Frankfurt am Main, Cologne and Bonn; the next to follow will be Rome, New York and Paris.

In this work, the performative element of drawing is transferred to the movement of walking, the path on which I pass through the gardens. This is subject to my spontaneous decision.

The walk is undertaken under the premise that my own perceptions with respect to colours are investigated.

Proportional areas of colour, generated according to an algorithm developed for the purpose[2], are transferred onto aluminium rods 3 metres long.

The outcome of such a visit to a botanical garden is a group of painted aluminium rods; an algorithmically developed "code" that takes as its theme my walk and perceptions along the parameters of colour, proportion, performance, season of the year, norm, and infinity - and creates a new matrix for perception.

[1] "A botanical garden is a plantation of trees, bushes and herbal plants, often arranged in accordance with the plants' places of origin. Frequently, botanical gardens are administrated by a university or college, because such collections of plant species represent a good basis for scientific work.
History: there are records of an arboretum in Trsteno near Dubrovnik as from 1492. Early botanical gardens in Europe were founded in Pisa, Italy, by Luca Ghini in 1544, in Padua by Johannes Baptista Montanus in 1545, and in Florence and Bologna. In Germany, botanical gardens followed in Leipzig (1580), Jena (1586), Heidelberg (1593), Gie_en (1609) and Freiburg (1620), generally still integrated into the medical faculty as a *hortus medicus*. The first German botanical garden in the exact sense was established by Johann Daniel Major at the University of Kiel in the late 17th century (1669).
Among other things, the tasks of botanical gardens are:
- to understand, describe and arrange the diverse spectrum of plants, systematic botany
- to provide material for research, e.g. in the fields of biology, anatomy and morphology
- to provide presentation material for schools and further educational contexts, as well as for lectures at universities and specialist colleges; important for the acquisition of knowledge about species
- to preserve the diversity of species, functioning as a genetic store in the form of seed banks." (Wikipedia)

[2] *See "Rule to determine the colour areas / Algorithm BOTANIC CODE"*

[3]

[3] *BOTANIC CODE "Alter Botanischer Garten" of the University of G_ttingen, Germany; Jorinde Voigt, G_ttingen/Puerto Escondido, December 2009 Botanic Code*
Alter Botanischer Garten of the University of G_ttingen, Germany
Highbush cranberry (Caprifoliaceae, Viburnum trilobum, N-America) WV2009-359
Phyllostachys nigra (Poaceae, China) WV2009-360
Chinese hydrangea (Hydrangeaceae, Hydrangea heteromalla, Himalayas to SW-China) WV2009-361
Perennial honesty (Brassicaceae, Lunaria rediviva, Europe) WV2009-362
Mongolian almond (Rosaceae, Prunus ledebouriana, Altai-Mountains) WV2009-363
Bald cypress (Taxodiaceae, Taxodium distichum, N-America) WV2009-364
Clematis montana (Ranunculaceae, W-China) WV2009-365
Sierra redwood (Taxodiaceae, Sequoiadendron gigantum, USA: California, Sierra Nevada) WV2009-366
Holly (Aquifoliaceae, Ilex Aquifolium, Europe, W-Asia to China) WV2009-367
Arrow bamboo (Poaceae, Pseudosasa japonica, Japan, S-Korea) WV2009-368
Magnolia grandiflora (Magnoliaceae, Magnolia grandiflora, eastern N-America) WV2009-369
Western red cedar (Cupressaceae, Thuja plicata, western N-America) WV2009-370
European bugbane (Ranunculaceae, Cimicifuga europaea, E-Europe) WV2009-371
Spanish fir (Pinaceae, Abies pinsapo, SW-Spain) WV2009-372

RULE TO DEFINE THE COLOUR AREAS / ALGORITHM BOTANIC CODE

1.) Ø of the rod corresponds to the filigree quality of the plant

2.) Definition of colours
1st colour
2nd colour
3rd colour
4th colour
5th colour
according to conspicuousness.

3.) Proportions of colour
surface of the rod:
C = _ · d = _ · 2 r
Ø = diameter
d = diameter
_ = 3,1416
r = radius = 1/2 · diameter

The length of the 1st colour corresponds to the height of the plant in cm. The width = the full circumference.
The 1st colour is painted to cover the entire rod to this length.
The length of the 2nd colour is calculated by dividing the length of the first colour by the number of colours altogether.
The resulting value can be applied in different proportions (as long as the surface area remains proportional), so that the 1st colour is not completely covered by the 2nd colour.
The length of the 3rd colour results from dividing the length of the 2nd colour by the number of colours in total. The same principle as for the 2nd colour is valid with respect to the coverage of the surface area.
And so on…

4.) Arrangement of the colours (I)
1st colour: measured from the top edge of the rod, covering the full circumference of the rod.
2nd colour: 1 cm down from the top edge, positioning free
3rd colour: 2 cm down from the top edge of the 2nd colour, positioned to the right of the right-hand edge of paint in 2nd colour
4th colour: 3 cm down from the top edge of 3rd colour, positioned to the right of the right-hand edge of the 3rd colour
5th colour: 4 cm down from the top edge of 4th colour, positioned to the right of the right-hand edge of the 4th colour

5.) Arrangement of the colours (II)
As a result of the division and staggering of the areas of colour in stages 2 – 5, areas of colour eventually cut off at the bottom of the rod are added next to the appropriate colour in question.

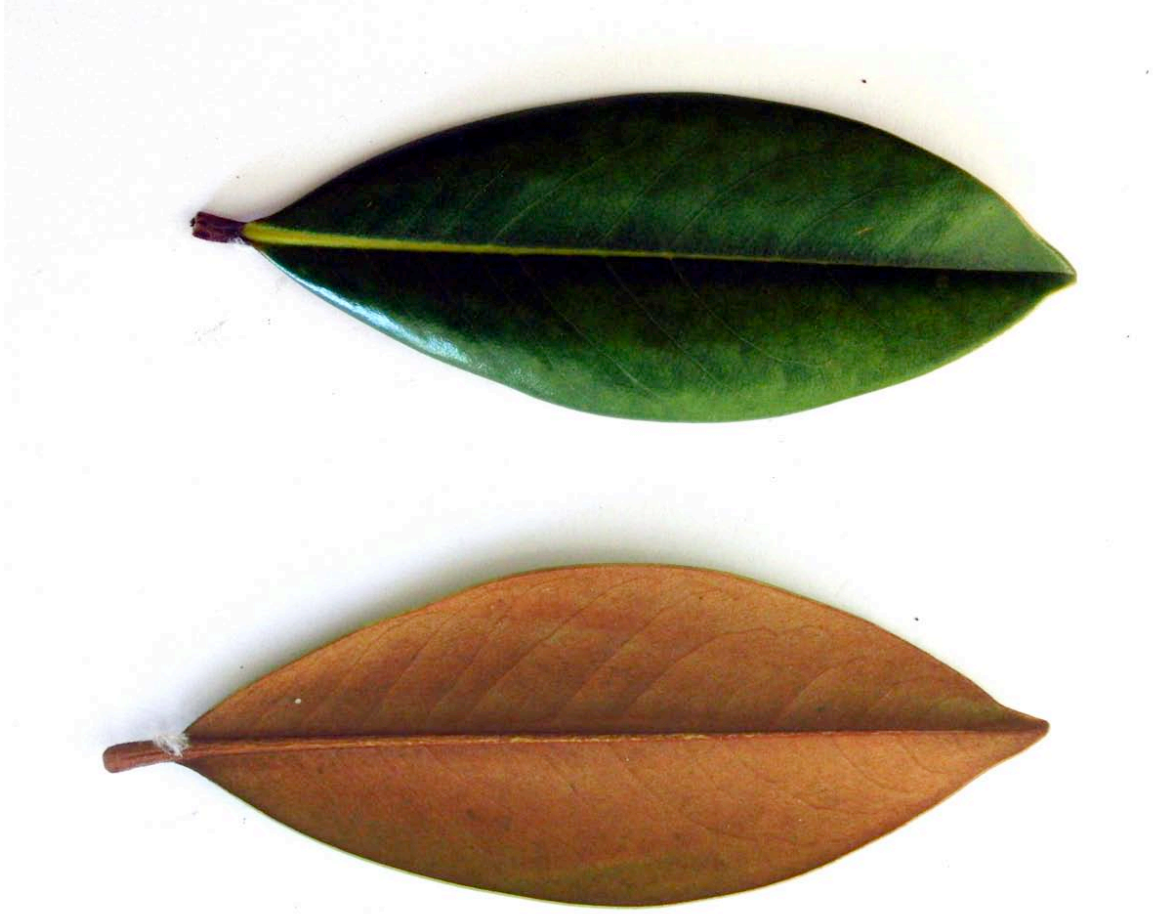
Aubrietia (Brassicaceae, Aubrieta intermedia, Balkans) WV2009-373
Himalayan fleece flower (Polygonaceae, Polygonum affine, Nepal) WV2009-374
Autumn joy (Crassulaceae, Sedum telephium "Matrona", garden form) WV2009-375
Golden tiara (Ranunculaceae, Mongolia, NW-China) WV2009-376
Magnolia "Susan" (Magnoliceae, Magnolia soulangeana, Japan (garden form) WV2009-377
Chinese wisteria (Leguminosae, Wisteria sinensis, China) WV2009-378

Jorinde Voigt
G_ttingen / Puerto Escondido, December 2009
20 aluminium rods
Length 300 cm, diverse diameters (35 mm, 25 mm, 12 mm)
Aluminium, industrial paint, ink, fixative
Unique works

Along the algorithm developed in this way[4], one plant after another is selected for its striking coloration and documented per photo.

 [5]

and an example of colour from the plant (e.g. a leaf that contains the typical colours) is collected.



[4] *"Rule to determine the colour areas / Algorithm BOTANIC CODE*

[5] *BOTANIC CODE "Alter Botanischer Garten" of the University of G_ttingen, Germany; Jorinde Voigt, G_ttingen/Puerto Escondido, December 2009 / 12_ Magnolia grandiflora (Magnoliaceae, Magnolia grandiflora, _stliches N-Amerika*

The botanical features of each plant are documented (name, Latin name, family, country of origin).

For each plant, I decide which colour is most noticeable as the plant's 1st typical colour, which colour as the 2nd, which colour as the 3rd and so on.
This sequence contains 1 to 7 colours.

In the studio, the diameter of the aluminium rod is chosen on the basis of the plant's "filigree quality".
The areas of colour are arranged subsequently on this rod according to the algorithm[6].

Every colour is attributed a Pantone colour value corresponding to the shade as found.
On the basis of my collected "colour examples" – leaf, blossom etc. – these colours are checked so as to avoid colour deviations resulting from the photographs.

Example:
BOTANIC CODE "Alter Botanischer Garten" of the University of Göttingen, Germany
Jorinde Voigt, Göttingen/Puerto Escondido, December 2009
12 Magnolia grandiflora (Magnoliaceae, Magnolia grandiflora, eastern North America)

Height of the plant: 217 cm

Rod: Ø 12 mm, Length 300 cm

1st colour:	Pantone 377 EC[7] Length: 217 cm x width: 9,43 cm	→ full circumference
2nd colour:	Pantone 4505 EC Length: 144,67 cm x width: 4,715 cm	→ colour area 1 cm below the upper edge of the rod → overlapping the 1st colour
3rd colour:	Pantone 408 EC Length: 48,22 cm x width: 4,715 cm	→ colour area 2 cm below the upper edge of the 2nd colour (3 cm below the upper edge of the rod) → overlapping the 2nd colour

[6] *"Rule to determine the colour areas / Algorithm BOTANIC CODE"*
[7] *Pantone ® Colorbridge CMYK EC*

View of the rod

View of the arrangement of colour areas

Arrangement of colours

12 – Großblütige Magnolie

3 Farben

1. Pantone 377 EC
2. Pantone 4505 EC
3. Pantone 408 EC

Höhe: 217 cm

Ø Stange 25 cm

Umfang = 25 × π = 9,43

1. Farbe: 217 × 9,43
2. Farbe: 217/3 = 72,33

(2 × 72,33) × (½ × 9,43)

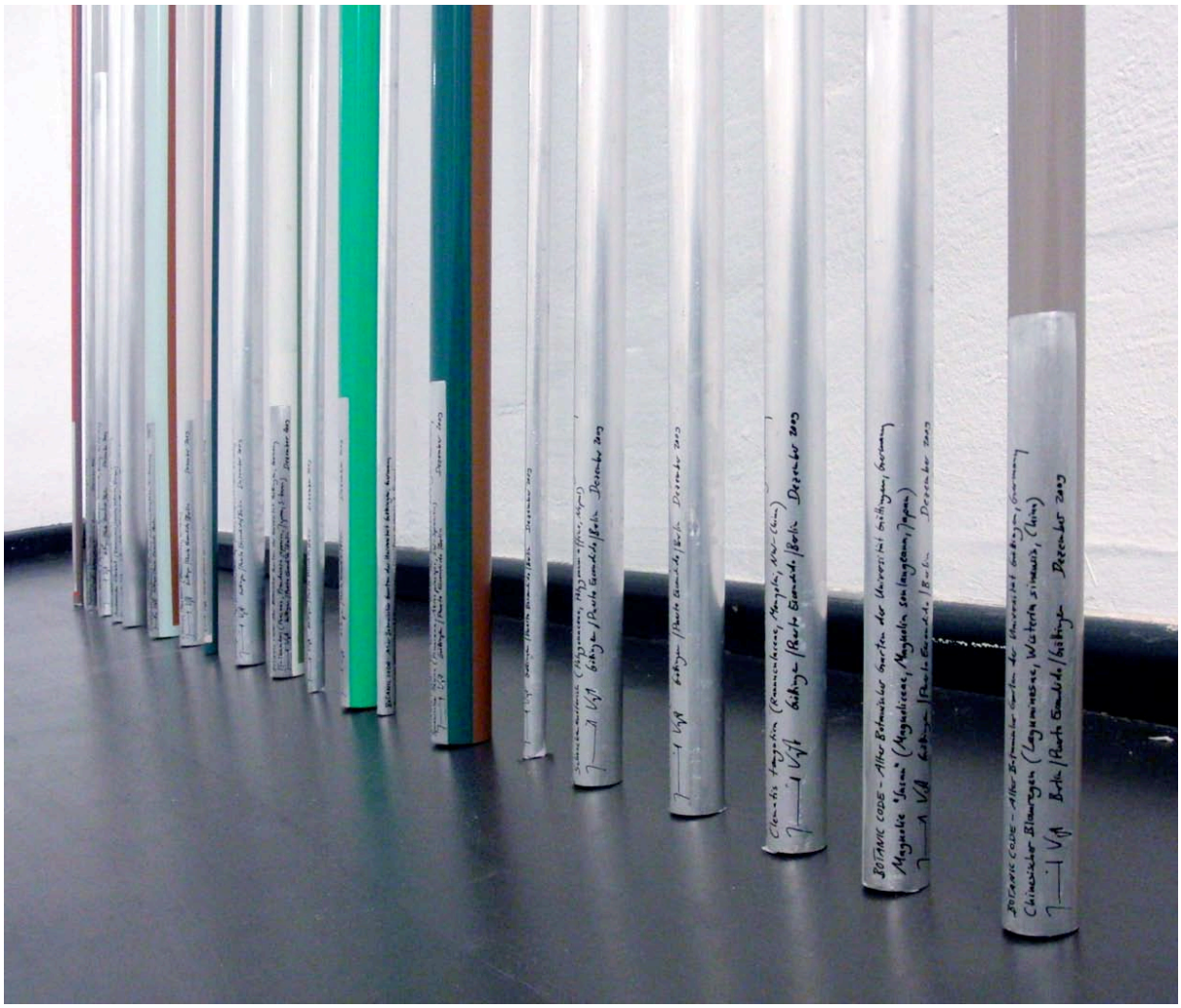
144,67 × 4,715

3. Farbe: 72,33 / 3 = 24,11

(2 × 24,11) × (½ × 9,43

48,22 × 4,715

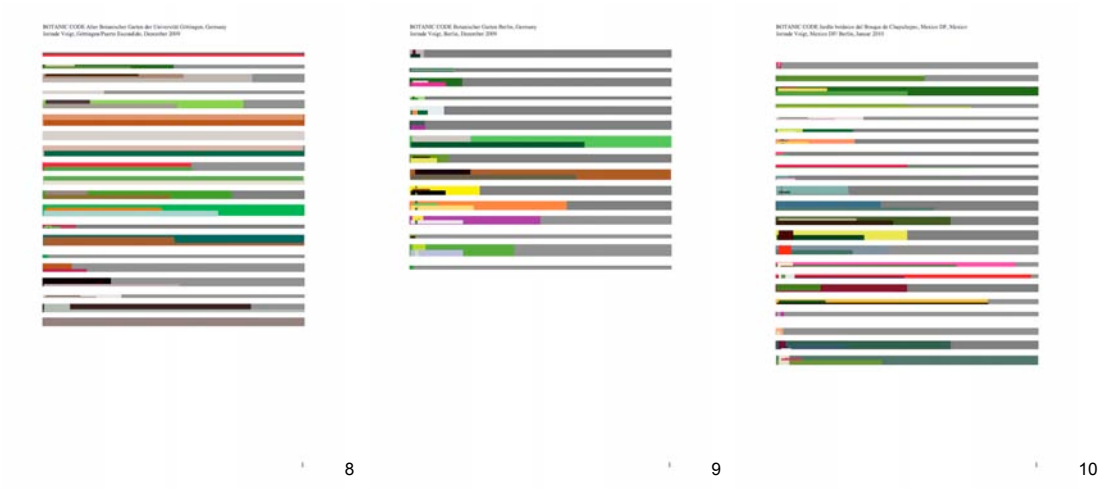
The information about the botanical characteristics is written at the bottom of the rod, and the rod is signed.



The finished work is the outcome of a cross-point within a matrix comprising the following parameters: travel, walk/performance (time), season of the year (time), perception, reduction of perception to colours in relation to the height of a plant (dimensions in space), norm (vertical - 3 metre aluminium rod), infinity (horizontal – circular area), repetition (repeated use of the algorithm), reduction (e.g. ignorance with respect to the plant's specific form, and everything else that is not listed above but plays a part in the composition of reality.)

Seasons of the year/ perception
The same plant has very different appearances over the course of the seasons.
If a plant is covered in snow in winter (white) or parts of a plant die during the winter months (brown-black-grey), this appearance is also incorporated into the registration of colours and is regarded as corresponding to the plant.
Within a green environment, it will be a non-green colour that is noticeable first in the case of a green plant. In winter, in surroundings dominated by faded colours, the first colour noticed is green.

The length of the walk corresponds to the number of plants observed and therefore to the number of rods.
This may turn out to be very different. Usually, between 10 and 30 plants are registered in the context of the algorithm; this corresponds to the same number of rods.
Here are 3 examples:



8 9 10

The adjoining colour proportions in the finished work correspond to the details of my perception. Overall, therefore, it is possible to see a colour spectrum that corresponds to the walk 1:1 in accordance with the algorithm.
As a result of this hierarchical sorting work, my Visual Memory is extracted from the memory in the brain and not set side by side in a hierarchical fashion. And so the result is something like folding out the presence of close observation in the simultaneity of several focused moments, whereby each individual moment is set alongside the next. Normally, that is not possible for the human brain; we are always tied to the linear structure of one-after-another. The installation essays this folding out /

[8] BOTANIC CODE Alter Botanischer Garten der Universität Göttingen, Germany
Jorinde Voigt, Göttingen/Puerto Escondido, Dezember 2009
[9] BOTANIC CODE Botanischer Garten Berlin, Germany
Jorinde Voigt, Berlin, Dezember 2009
[10] BOTANIC CODE Jardín botánico del Bosque de Chapultepec, Mexico DF, Mexico
Jorinde Voigt, Mexico DF/ Berlin, Januar 2010

multiplication of concentration by repeating the same application. The result is then visible in its entirety, although intellectually it is not possible to grasp the detailed algorithm all at once.
We can grasp individual aspects, but not everything simultaneously.

Arrangement in space/ installation
The sequence of the individual rods (1 to x) from left to right should be retained; it corresponds to the order of the plants observed on the path through the botanical gardens.
The rods are leant against the wall, very close together, so that the group appears as an overall area of colour. This mundane presentation represents the simplest way how to view the “result”. However, other forms of installation are equally possible.
The work could be laid out on the floor, hung from the ceiling, etc. The space that the work refers to is the space of the matrix described. The installation of this parameter-constellation in concrete material and social space is simultaneously an examination/investigation of this confrontation between the constructed matrix and its concrete surroundings.

Materials: aluminium, industrial paint, ink.