



i

i

ii

iii

*A tiny world and
countless compositions in it*

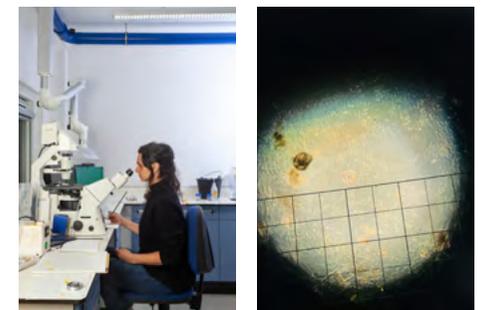
Museum Kranenburgh (Bergen, The Netherlands)
December 2020 – April 2021

A tiny world and countless compositions in it takes the marine micro-organisms known as plankton as the subject matter for an exploration of matter and scale through investigative drawing which address environmental change through one of the most important elements of marine ecology. The project continues my interdisciplinary work with scientific research, which involves ecological explorations with specialists in the field and in research laboratories, producing drawings, and field notes from the many conversations with scientists which form part of my exhibitions and publications.

A tiny world and countless compositions in it is the outcome of a 12-month project focusing on marine micro-organisms known as phytoplankton. The project is my second collaboration with the Royal Netherlands Institute for Sea Research (NIOZ), a world leading marine research institute which studies seas and oceans around the world. My work was embedded in the work of the lab led by Professor Katja Philippart, whose research focuses on the coastal ecology of the Wadden Sea and the phytoplankton as the primary producers in shallow seas. During monthly visits to NIOZ, I collected samples from the sea and analyse them together with researchers in an exploratory mode. This sets up the framework for me to use a combination of drawing and writing processes in situ, exploring the physical properties and effects of phytoplankton which have a great impact on the earth's climate, as well as learning from the research community at NIOZ. My particular interest in marine micro-organisms developed during research for my project *Indexing Water* in 2017, which

focused on colour studies used by marine scientists and was developed in dialogue with Marcel Wernand, one of the leading scientists from NIOZ. My primary references were the Secchi disc, a 30cm diameter disc mounted on a pole or line, which is lowered into bodies of water to measure its visible depth, and the 21 colours of the Forel-Ule scale, used to measure the properties of natural waters in which the colour is caused by different elements. I learnt during this project that the green part of the scale is related to the presence of plankton and that these organisms, when viewed under a microscope, were visually very remarkable and intended to return to explore them further.

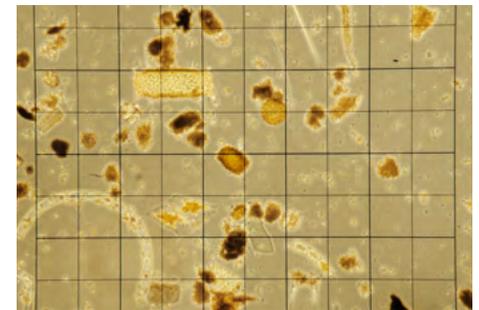
Plankton consist of microscopic plants (phytoplankton) that live in both salt and freshwater environments and are crucial to ocean biology and climate. Phytoplankton are responsible for approximately 50 per cent of all photosynthesis on earth, consuming carbon dioxide and releasing oxygen. They are the foundation of the aquatic food chain, the primary producers, feeding everything from zooplankton to multi-tonne whales. Living at the sea surface the phytoplankton are particularly sensitive to changes in sea surface temperature, which is influenced by the air temperature above. Planktology is a crucial field of study as changes in the productivity of plankton could have a significant influence on biodiversity, fisheries and the human food supply, and the pace of global warming. The visibility of the project aims to call attention by means of artistic practice to these organisms that are so relevant to our environment and yet so hidden to the human eye. The project highlights the



importance of the research carried out in the scientific field and the urgency to protect the organisms and the ecologies in which they live.

Throughout a year, I made monthly visits to NIOZ during which my explorations and conversations are recorded in drawings and notes. The number of drawings was every month, depending on the samples I could collect according to weather and sea conditions; thus, charting the changes over the annual cycle. The variation and irregularity of each month reflects the process of making and the seasonality of the plankton. The main focus of my drawings is to explore and visualise these changes in response to the samples which are inconsistent from one day to the next, due to the aleatory aspects of working with live specimens.

The framework for this project was to work within the 12-month period and with the seasons, posing the question of whether I can, as an artist, visualise the physical changes of the organisms. The drawings are responsive to the conditions of the samples, with chance an important factor in how the compositions are produced. Written notes are used to record how to do things so certain lab procedures can be repeated each month, and secondly to document the thinking that only comes into existence when drawing.

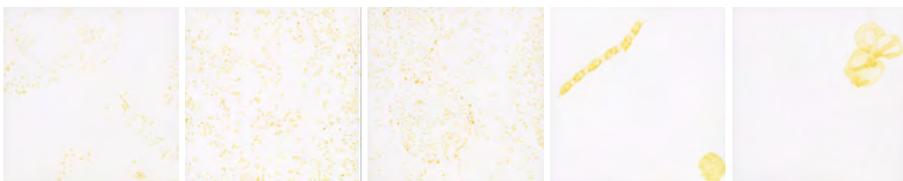




i
series of 38 drawings
watercolour on paper, 30 × 30 cm



Apr
2019



May
2019



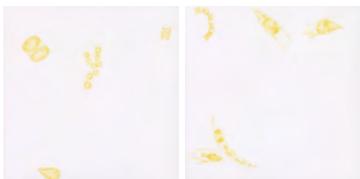
Jun
2019



Jul
2019



Aug
2019



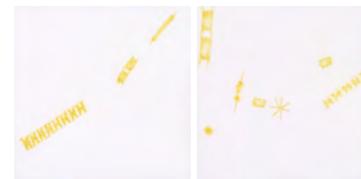
Sep
2019



Oct
2019



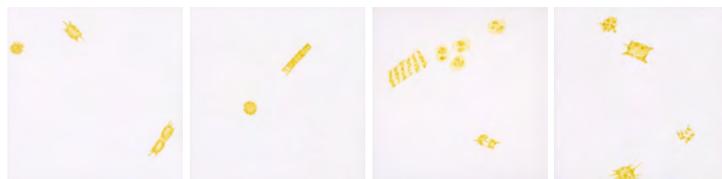
Nov
2019



Dec
2019



Jan
2020



Feb
2020



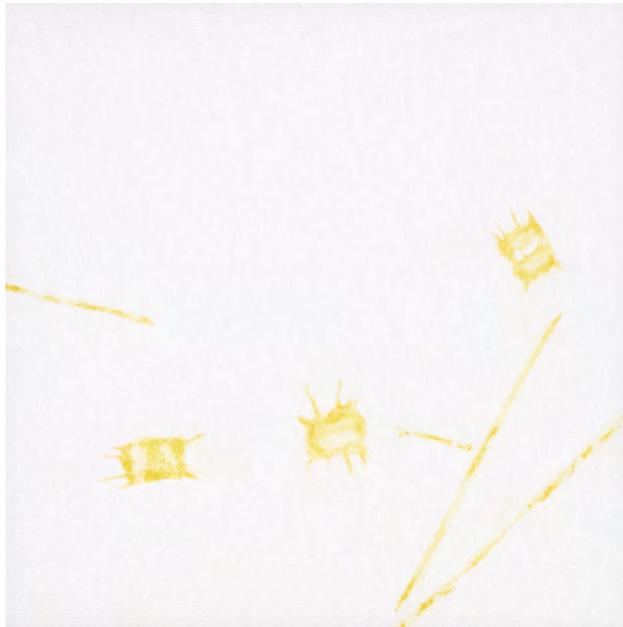
Mar
2020



April 2019



May 2019



June 2019



July 2019



August 2019



September 2019



October 2019



November 2019



December 2019



January 2020



February 2020



March 2020



ii

Notes

pencil and watercolour on paper

variable sizes: 1: 30x30 cm; 4: 30x24 cm; 73: 24x18 cm

por lo
un
La



23.1.20 III

que paisaje + triste. esto nuevo y lo nuevo
la muestra es desoladora no hay casi nada
y lo que está, esto rodeado de dust;
como un bitter del agua?

se parecen bastante las muestras entre
sí, lo des igualmente bien.



Esto obscuro
neblina, s
el pronos
clasee. Son
veremos
má pare
que

no

no es suficiente que el dibujo no vaya a funcionar o que
imposible en el proceso

April 2019

no sé si alguna vez
logra saber porque es tan así por el
proceso es lo que me interesa
1. que me gusta el pasar. y
es también hacer y hacer y ver
lo que es en contacto con la materialidad
del mundo.
y luego va manera de conocimiento
que se acumula en los capás del
hacer y el pensar.

PH 1
filtro
se pueden mover
pero nos hacen de mano de obra

16 abril 2019.

de algo como ser sistemática
notas de como hacer el color
notas de que procesos se
de escala.
de luz.
de magnificación.
de filtros.
de microscopio.
no se zime
= poder un mic. con un espacio
con luz natural pero sea otro

16 abril 2019.

apoyos momentos de un proceso por sistema
materialización de un proceso por sistema
si curso. y se materializa
más tarde en otras cosas.

la narrativa. → las historias que
se pretén en el proceso de hacer
cinca. y de hacer todo. el
exceso de material por se genera
tanto uno produce imágenes y
y la producción de conocimiento
científico.

movier magnificación
luz alrededor
intensidad de luz.

July 2019

2. Julio
 la animación de canchales. no sé que
 me hará verlos hoy. recuerdo cuando se
 separa que escuchaba si la foto? no recuerdo.
 y pinto que mejor no sé si no me
 predispongo a'
 me gusta lo que dije ese sí. el otro
 en mi estudio (video).
 que es hablar de la en la universidad
 aunque sea como → hablando de visitas
 el decir que lo que crece al reemplazando
 es por sí o sí

- CYLINDROTHÈCA - NAVICOLA - RHIZOSOLENIA
 - SKELÈTONEMA (?) - CHAETOCEROS

2. julio 2
 los flagelados / saber que son redondeados
 tipos. SEM
 + es parecido al término ADN.
 es como / junio 3.
 empieza
 > tanto rizado con ellos
 cuando los ves bastante
 es por momentos
 toda esa vida es una plágula
 la imagen de julio es la de la
 foto. no gustan
 hasta dar vuelta no tanto lo que
 separa que luego y notar.
 supongo que a # veces también se
 cambian

3. julio
 los rectángulos
 hay composiciones magistrales → un círculo
 o durante
 - empezar a entender cómo
 los predominantes de hoy se empiezan
 a substituir. sea como círculos o
 rectángulos pero se van despidiendo
 o despidiendo más bien
 el zooplankton pasó y lo despiden todo. ahí
 si es despiden la plégula.
 la cuestión es registrar la composición en
 la que esto ocurre y tratar de ver a donde van
 las partes para dibujar el detalle

October 2019

2019
2019
color
water



2nd attempt
not very successful as an attempt but
I guess somewhere good to try it
and get in touch with the problems
was worthy than before. it could be due to the
lack of sinc. 2nd practice but also may
possible to too change of tabs and
lack of light in the paper.

The sample deteriorated much faster than
what I thought, or rather remember.
might actually be necessary to first take a picture before
it starts getting destroyed by long needles and the
warmth of the lamp in the mic.
none the less I did a couple of small steps like using the
grid. I also like again the random compositions
it gives. so I'm sure I want to go ahead



10.10.19 3.

no me siento con el soporte suficiente de hacer otro
dibujo. gata al consenso no impera. ~~is~~ pinta
energía, vólar la
gata uno no siente presión de pie si uno habla ap-
deberá ser probados.

mas no es siempre mas
o veces es mas se puede 
calidad se puede reflexionar
se puede hacer

composiciones hay. aunque el sample de
Hare le sedimentos y yo mucha de su no
puedo negar se material p/ dibujo hay.
lo intento?

iii

Water columns, 2020

glass

60 cm × 30 cm diameter /

150 cm × 30 cm diameter



Irene Kopelman
*A tiny world and
countless compositions in it*

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Quirine van der Sloot

Text PDF:
Irene Kopelman

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Museum Kranenburgh, Bergen

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Michel Claus

Photography Drawings:
Art in Print/Zeeuws Archief

Production *Water columns*:
Van Tetterode Glass Studio

Documentary Video:
Sebastian Diaz Morales

Design PDF:
Ayumi Higuchi

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Dedicated to:
Marcel Wernand