

“Under water” – Between Science and Art – The rediscovery of the first authentic underwater sketches by Eugen VON RANSONNET-VILLEZ (1838–1926)

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(with 14 figures)

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Abstract

This article presents new material on the Austrian artist-explorer Eugen VON RANSONNET-VILLEZ (1838–1926). RANSONNET gained local credit for his underwater-oil painting held in the Natural History Museum Vienna (hereafter NHM Vienna). This picture is based on sketches taken by RANSONNET sitting in a diving bell in the year 1864/65 in Ceylon (today Sri Lanka). This diving bell experiment always drew some attention to itself. But despite that little is still known about RANSONNET's life and working techniques. RANSONNET's diving bell experiment was not his only attempt to explore and picture the then unknown world underwater. Before and after this he tried different techniques to obtain more naturalistic insights into the submarine world. The rediscovery and the presentation of until date unpublished material from the Oceanographic Museum of Monaco (hereafter MOM) sheds new light on his methods in underwater-landscaping. Among this are the very first authentic underwater sketches in history.

Keywords: Diving, Underwater pictures, Painters, History of Science

Zusammenfassung

Vorliegender Artikel präsentiert neues Material über den Maler und Entdecker Eugen Freiherr VON RANSONNET-VILLEZ (1838–1926). RANSONNET erlangte lokale Berühmtheit für sein im Naturhistorischen Museum Wien (NHM Vienna) aufbewahrtes Unterwasser-Ölgemälde. Dieses Gemälde basiert auf Skizzen, die RANSONNET in einer Taucherglocke im Jahr 1864/65 in Ceylon (heute Sri Lanka) angefertigt hat. Dieses Taucherglocken-Experiment zog stets Interesse auf sich. Doch abgesehen davon ist noch immer wenig über RANSONNET's Leben und seine Arbeitsmethoden bekannt. RANSONNET's Taucherglocken-Experiment war nicht sein einziger Versuch, die

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bis dahin unbekannte Welt unter Wasser zu erforschen und zu malen. Davor und danach testete er verschiedene Techniken, um einen immer naturalistischeren Einblick in die submarine Welt zu erlangen. Die Wiederentdeckung und erstmalige Publikation von bisher unveröffentlichten Materialien aus dem Ozeanographischen Museum von Monaco (MOM) wirft neues Licht auf seine Methoden in der Unterwassermalerei. Darunter befinden sich auch die ersten authentischen Unterwasser-Skizzen der Wissenschafts- und Kunstgeschichte.

Schlüsselwörter: Tauchen, Unterwasserbilder, Maler, Wissenschaftsgeschichte

Introduction

In the 19th century landscape painting became one of the most popular types of art. The amazing discoveries made by scientific expeditions around the world nourished the interest in exotic landscape paintings. Almost every official scientific expedition had (apart from a photographer) its own landscape painter on board, documenting the travels in thousands of coloured sketches. The desire of the European audiences to see new and unknown places and realms seemed almost unsatiable. So called “artist-explorers” braved many hardships to reach and picture such places in often romantic and soulful representations. But the fast progress of industrialization and associated with it the development of new means of transport made the search for unknown places harder and harder. The world seemed to shrink rapidly and during the middle of the century even most distant areas came into “touristic” reach. However, whereas the globe soon seemed to be all mapped and measured, the underwater realm was still mysterious and unknown. The fascination for the submarine world was not a new phenomenon. Man always tried to find ways to explore under water. Diving history is full of daring attempts to break the boundaries to this almost inaccessible world (MARX 1990; VAN MOORSEL & BENNEMA 2015: 10–20; Wikipedia 2016). This interest in underwater life is also reflected in the growing interest in aquariums that started in the middle of the century (see BRUNNER 2003; GOSSE 1854). In 1853 the first public aquarium was opened on the initiative of Philipp Henry GOSSE and Davis William MITCHELL in the Zoological Gardens at Regent’s Park. In the newspaper this innovation was celebrated with the remarkable words: “[...] *in this new undertaking of the Zoological Society [the aquarium], we have not only an illustration of the colour and form of these animals, which no pencil can approach, but a means of observing their habits and economy [...]*” (ANONYMOUS 1853: 420) This text shows the desire to get visual access to this self-contained environment. But the pictures of the underwater world had to be done by memory as there was no way then of observing and drawing directly. That’s why the first underwater-pictures are always like still lifes, marine plants and animals assembled and arranged on an imaginary stage. One climax of this public fascination in the underwater-world was surely the presentation of the “Rouquayrol-Denayrouze diving suit” (patented in 1864) and the three aquariums by CAUMES and BETANCOURT at the world’s fair 1867 in Paris. Among the intrigued spectators was Jules VERNE, who was inspired for his novel “Twenty Thousand Leagues Under the Sea” (1870).

By most diving historians Zarh PRITCHARD (26 March 1866 to 29 August 1956) is still considered the first underwater painter. Although BURGESS (1994) names two

Fig. 1. Eugen VON RANSONNET-VILLEZ: self-portrait, Archives, NHM Vienna.

predecessors (the French expeditionary artist Jean-Baptiste Henry DURRAND-BRAGER and the Scottish archaeologist father Otta BLUNDELL) RANSONNET is not among them (BURGESS 1994; MOURE 1999; SHOR 2010).

Compared to Walter Howlison Mackenzie “Zarh” PRITCHARD whose life has often been the subject of biographies and books very little is still known about the Austrian underwater-painter Eugen VON RANSONNET (1838–1926; Fig. 1). Whereas PRITCHARD (inspired by Jule VERNE’s *Twenty Thousand Leagues Under the Sea*) started to explore the underwater world by



diving in the late 1880s, RANSONNET had already taken interest in that world in the 1860s. SHOR (2010: 1) writes about the young PRITCHARD: “*He became enchanted with the below-surface colors, what he called ‘the fairy scenes of the deeps of the sea.’ He made sketches of these scenes when he returned to shore. He soon created underwater goggles of cow horn and leather, based on a picture in a travel book.*” In 1888 at the age of 18 PRITCHARD started to sell his first underwater pictures but initially without big success. It took PRITCHARD to the early twenties of the 20th century to gain worldwide recognition of his work, a goal RANSONNET should never reach. Compared to Zarh PRITCHARD RANSONNET’s pictures show a much more realistic approach. Whereas PRITCHARD’s paintings depict the world underwater as a magical kingdom (see Fig. 2), RANSONNET’s focus lies on the almost photo-realistic and scientific representation of this realm (Fig. 3). Both painters, RANSONNET and PRITCHARD were appreciated by Prince Albert I. As founder of the Oceanographic Museum in Monaco (inaugurated in 1910) he supported all kinds of efforts to discover the ecology of the seas and raise the awareness of the public for it. (CARPINE-LANCRE 1980: 157–167)

Materials

Eugen VON RANSONNET’s youngest daughter Eugénie (1880–1971) donated the family bequest to the Catholic Church (ROITHER 2006). Many family documents, private diaries of Eugen VON RANSONNET and his father Karl as well as sketches and pictures by Eugen



Fig. 2. Zarh PRITCHARD IO-Obj-03055, *Mas-sif de coraux dans la lagune de (Tahiti) par un fond de 35 pieds*, 1925, MOM Collection.

VON RANSONNET are therefore held by the Diocesan Archives in Linz (4020 Linz, Harrachstrasse 7, Austria). Huge parts of his zoological collections RANSONNET already donated during his life-time to the Natural History Museum Vienna (NHM Vienna hereafter). A comprehensive publication about his life with special emphasis on the RANSONNET-specimens held in the NHM Vienna has been published in 2016 (JOVANOVIĆ-KRUSPEL et al. 2016). His paintings are still mainly privately owned. The NHM Vienna holds beside his undated underwater-oilpainting (Fig. 3) two hand-retouched lithographs (Fig. 4 A and 5 A), his self-portrait (Fig. 1), a watercolour sketch and most of his publications. The MOM holds 17

underwater pictures (in oil, watercolours and lithographs) by RANSONNET and five paintings by Zarh PRITCHARD, as well as several letters (dating between 1920 and 1926) from RANSONNET to the Prince and to the director of the museum Dr. Jules RICHARD (director from 1900 until 1945).

RANSONNET's life

Several reference books include biographical information on RANSONNET's life (BOETTICHER 1969; FUCHS 1973). A comprehensive biography about RANSONNET was published by ROITHER in 2006. Special focus on the diving-trial was laid in KRUSPEL (1998).

Eugen VON RANSONNET-VILLEZ was born on June 7, 1838 in Vienna. His father, Karl VON RANSONNET-VILLEZ, was Vice-President of the High Court of Auditors and his mother, Margarita Countess BIGOT DE SAINT-QUENTIN, descended from an Aristocratic family from the Picardie. His parents allowed their son an extensive academic education. Especially his artistic talent in the fine arts was soon discovered and by the age of twelve Eugen already became a student at the Academy of Fine Arts in Vienna which made him by far the youngest of all the students there (Schülermatriken, Academy of Fine Arts, Vienna; Archives). RANSONNET's main interests were always the Arts and the Sea. But on the advice of his family RANSONNET started to study law in 1855. In 1858 he became

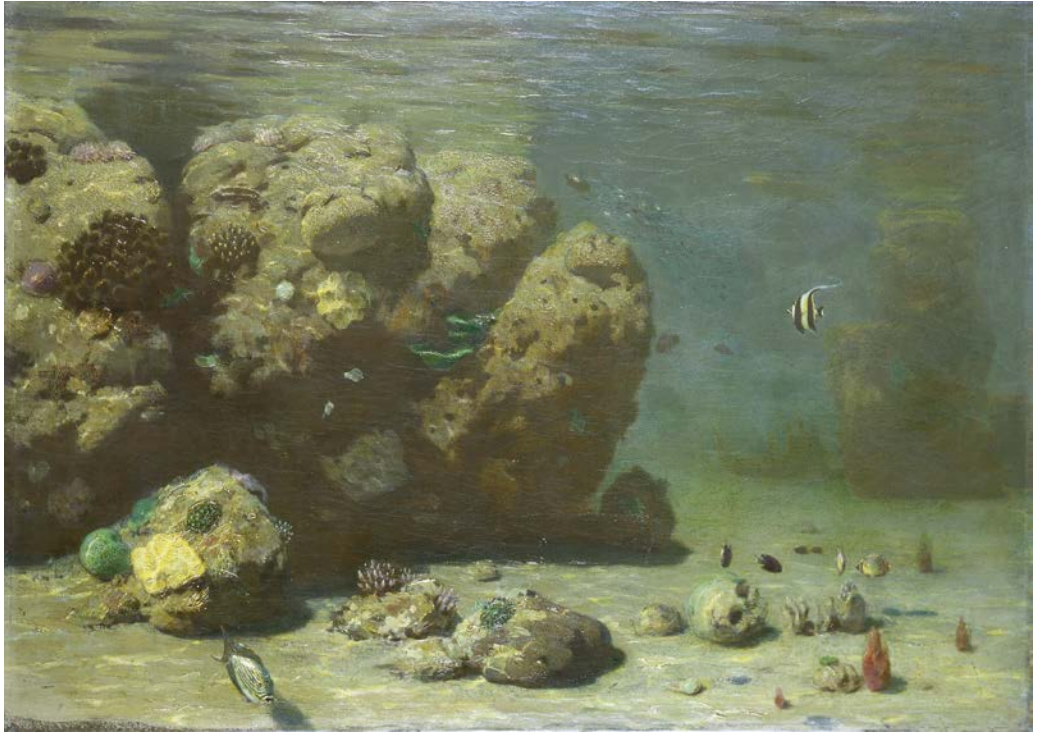


Fig. 3. Eugen VON RANSONNET-VILLEZ: underwater landscape, oil on canvas, undated, 3rd Zoological Department, NHM Vienna (dim. unframed: ca. 68 × 49 cm); Photo by Alice SCHUMACHER.

an official in the Imperial Ministry of Foreign Affairs. This position offered him the possibility to travel and to maintain his interests in nature and above all the world of the sea. Wherever he went he collected, painted and sketched, even under water. His interest in natural sciences is the reason that RANSONNET became (since 1861) member of many scientific societies, among them the Zoologisch-Botanische Gesellschaft (Zoological-Botanical Society, founded 1851 by the zoologist Georg Ritter VON FRAUENFELD) and Anthropologische Gesellschaft (Anthropological Society) in Wien. He published articles in the journals of the Zoologisch-Botanischen Gesellschaft (for example: RANSONNET 1863a) and in (RANSONNET 1872) in the “Mitteilungen der Anthropologischen Gesellschaft in Wien”. Thanks to these societies RANSONNET came in close contact with scientific experts who described the specimens collected by him and proposed several new species based on his material. Especially Georg Ritter VON FRAUENFELD, who participated as zoologist in the expedition of the frigate *Novara* (1857–1859) became a friend of RANSONNET (NHM, Archives, bequest Georg VON FRAUENFELD, letter 108.01 RANSONNET to FRAUENFELD 20.2.1865).

In 1869 RANSONNET was appointed diplomatic attaché for the East Asia-Expedition (k. k. Österreichisch-Ungarische Expedition nach Indien, China, Siam und Japan, 1868–1870). When he returned home in 1870 he married Agathe (1849–1920) from the

wealthy Swiss-Austrian banker-family GEYMÜLLER. With Agathe VON GEYMÜLLER he had five children. Soon after his wedding RANSONNET built a house in the small Austrian village Nussdorf am Attersee, directly on the shore of Lake Attersee (Dorfstrasse 56). In 1872/73 the house was completed and Nussdorf became the most important holiday domicile of the family (ANONYMOUS 1955). On Lake Attersee RANSONNET dedicated himself amongst other things to sailing and he became the founder of the local sailing club. Beginning in 1884 RANSONNET started to spend the winters in Istria in Croatia. RANSONNET toured the coastal regions and islands of Croatia. In 1884 he discovered the blue grotto on the island Busi (today: Biševo) and opened it for tourism (RANSONNET 1884: 4 and 1891). After his father's death in 1892–94 he had a villa built for his family in the little village Volosca (in Istria) by the architect Carl SEIDL. The villa was located directly on the shore promenade. Like in Nussdorf RANSONNET obviously wanted to be in closest proximity to the water. He spent there a lot of time especially in winter (REYER in N.N.: Maria RANSONNET, without date, Diocesan Archives, Linz, Austria). In 1920 his wife Agathe died in Volosca after 50 years of marriage and RANSONNET sold the house (WALLENTIN 1926). From this time on he moved completely to the Austrian village Nussdorf am Attersee. There he spent the rest of his life. He died on the 28th of June in 1926 at the age of 88.

RANSONNET & the world under water

His love of the Seas runs like a clear thread through RANSONNET's life. His father noted in his private journal about his son: *“As a young boy [...] you wanted to be a sailor, this career you gave up by request of the elders, but your love for the sea & shipbuilding remains for you and will most likely remain for your whole life.”* (RANSONNET's family bequest held in the Diocesan Archives, 4020 Linz, Harrachstraße 7, Austria: private diary of Eugen von RANSONNET's father Karl) Repeated visits to his aunt in Nice (France) at the seaside nourished his interest in sea animals and marine biology. His employment at the Ministry for Foreign Affairs gave him the chance to deepen his enthusiasm for this specific field of biology by giving him the chance to travel.

The Red Sea

Already in the year 1862 he travelled to Palestine, Upper Egypt and Arabia, wishing to learn Arabic and to explore the Red Sea. In the small coastal village Tor (today El Tor) he collected corals and other sea animals. On this journey he sketched the first underwater landscapes sitting in a boat and observing the underwater world through the water surface. Collecting was always an important purpose for RANSONNET. He transported the natural specimens collected on the back of camels through the desert; first to Suez and from there by ship and train to Vienna. RANSONNET kept a private collection but (as mentioned above) also donated great parts of his specimens to the NHM Vienna. The scientists of the museum helped RANSONNET to determine the species. Back in Vienna he

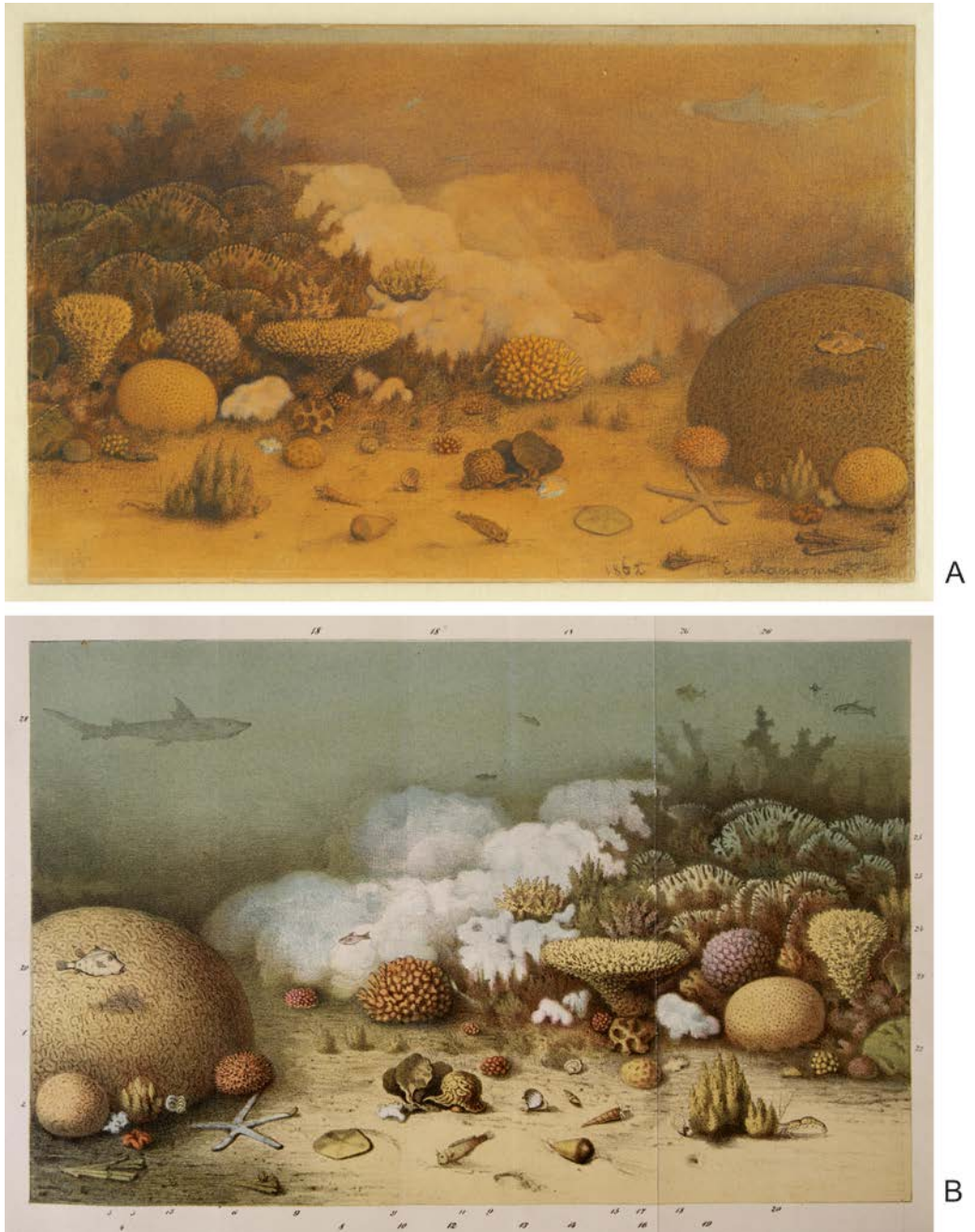
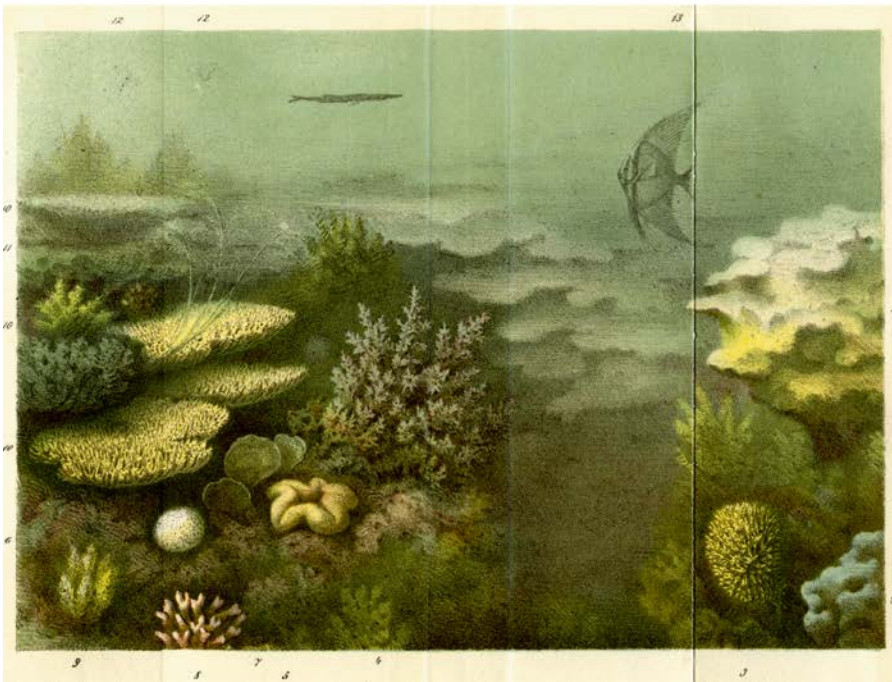


Fig. 4. **A:** Eugen VON RANSONNET: hand-retouched template (signed and dated E. v. RANSONNET 1862) for the lithographic illustrations in “Reise von Kairo nach Tor zu den Korallenbänken des rothen Meeres”, Vienna 1863; 3rd Zoological Department, NHM Vienna; Photo by Alice SCHUMACHER. **B:** Eugen VON RANSONNET: illustrations from the publication: “Reise von Kairo nach Tor zu den Korallenbänken des rothen Meeres”, Vienna 1863, lithographs; libraries, NHM Vienna.



A



B

Fig. 5. **A:** Eugen VON RANSONNET: hand-retouched template (signed and dated E. v. RANSONNET 1862) for the lithographic illustrations in “Reise von Kairo nach Tor zu den Korallenbänken des rothen Meeres”, Vienna 1863; 3rd Zoological Department, NHM Vienna); Photo by Alice SCHUMACHER. **B:** Eugen VON RANSONNET: lithographic illustrations in “Reise von Kairo nach Tor zu den Korallenbänken des rothen Meeres”, Vienna 1863; lithographs; libraries, NHM Vienna.

started to create the lithographic illustrations for his publication about his journey. The comprehensive description of this journey was published by Eugen VON RANSONNET in Vienna in 1863 (RANSONNET 1863a and b) under the title: “Reise von Kairo nach Tor zu den Korallenbänken des rothen Meeres”. RANSONNET (1863b) included five lithographic illustrations, RANSONNET (1863a) only the two underwater-lithographs. All these illustrations (in RANSONNET 1863a and b) were printed by the renowned lithographic institute of Anton HARTINGER (see Fig. 4 B, lower right). HARTINGER was a trained painter of flowers and taught at the Academy of Fine Arts Vienna. Between 1844 and 1860 he created drawings and coloured lithographs for “Endlicher’s Paradisus Vindobonensis”, a magnificent illustrated book. With this training in the precise depiction of nature, he sure was a congenial partner for RANSONNET. Two of the five illustrations are underwater scenes showing the coral reefs of the Red Sea (Fig. 4 B & 5 B). As templates for these illustrations he used the pictures he had made during his travel. RANSONNET himself describes these two illustrations as follows: “*The illustrations presented here show the seafloor like on the inside of a fish tank, in the same perspective arrangement as it is used in landscapes. Only coral species are shown in one picture that are really found there, their position and their succession in different depths and on different seafloors were taken into account. For this reason unfortunately many genera had to be omitted which were mentioned in the article to get a characteristic of the region rather than a synoptic representation of the different genera.*” (RANSONNET 1863a: 185)

This quotation shows that realism and naturalism were already then RANSONNET’s main goals. Accompanying notes to the illustrations provided information to the reader on the precise names and habits of life of the organisms depicted.

The NHM Vienna holds the until now unpublished hand-retouched templates (Fig. 4 A & 5 A) for the two illustrations in “Reise von Kairo nach Tor zu den Korallenbänken des Rothen Meeres”, Vienna 1863 (RANSONNET 1863a) (Fig. 4 B & 5 B). These templates were originally on display in exhibition room XXI together with the oil painting and with specimens of corals (HAUER 1889: 208 f.). A stereo-photo from the end of the 19th century shows the oil-painting on the wall in the exhibition soon after the opening of the museum in 1889 (Fig. 6). RANSONNET felt the need to complete his contemporaries’ impression of the dried pale coral specimens presented in the museum’s collections by authentic and coloured views of the living world under water. Interestingly the template (Fig. 4 A) for one of the lithographic illustrations (Fig. 4 B) is mirrored. This could be either caused by RANSONNET using different stones for the template and the illustration or by using the method of transfer printing. Anyhow the most striking difference is the colour tuning. The lithographs published in 1863 are much cooler and blueish than in the templates that date back to 1862 and therefore must have been created during or immediately after his journey (January–March 1862). This is difference in colour tuning is most probably caused by the fact that the hand-retouched templates were exposed to sunlight due to being on display in the exhibition, but this might not be the only reason. RANSONNET might have experimented with different colours and compositions until he reached adequate results.



Fig. 6. Stereo-photograph by L. GRILLICH, (late 19th century): This view of room XXI shows the position of the underwater-painting in the old exhibition. Copyright Wien Museum.

Ceylon

But obviously RANSONNET was not completely satisfied with the products of his underwater observations in Tor. Only two years later 1864 RANSONNET left Vienna again to travel to Ceylon (today: Sri Lanka) and East-India. Leaving Vienna in the middle of October 1864 he arrived in Ceylon after a 20-day journey. He returned to Vienna on 26th April 1865. RANSONNET stayed three months in Ceylon. His aim was to study the underwater world even more closely. For this purpose, he had a diving bell constructed according to his own design (Fig. 7), which he tried out in the coastal waters of Point de Galle (in the south of the island). RANSONNET described the design and trial of the diving bell in his book *Sketches of Ceylon* (RANSONNET 1868: 13–14) elaborately:

“The diving bell which was constructed according to my own design was three feet [0.948 m] high and two and below a half [0.79 m] wide, four sided, with rounded corners and weighed although made of massive sheet iron not much more than 80 pounds [approx. 45 kg]. On the front side and on the roof were windows from inch thick glass [approx. 2.6 cm]. Four handles below and above were designed to make the apparatus easy to hold and to attach the weights. On the opening of the bell was a movable iron strap for sitting. Apart from the weights of 600–700 pounds [approx. 336–392 kg], which were distributed on the corners, weights of 50 pounds [approx. 28 kg] each were pending on strong ropes lying on the ground like anchors. By shortening or extending these ropes the apparatus, which was carried by the air in it, could be lowered or lifted. If you wanted to move horizontally in different directions it was necessary, standing firmly on the sea-floor, to lift the anchor-weights BB by adjusting the ropes and pulling the floating bell

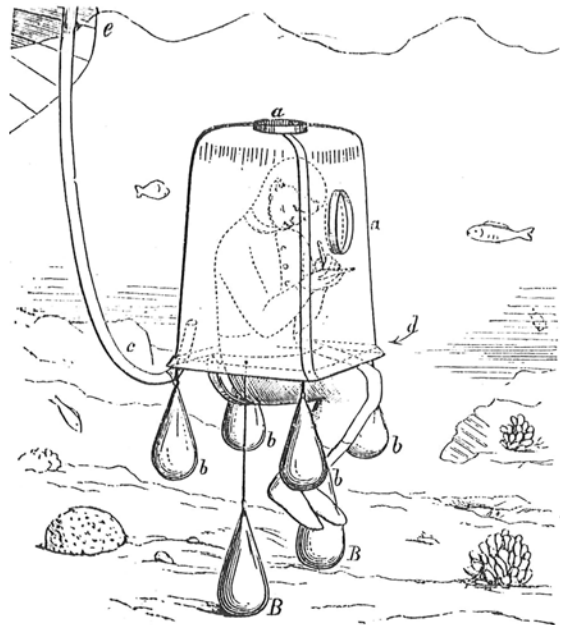
Fig. 7. Eugen VON RANSONNET: the diving bell, illustration from: "Ceylon. Skizzen seiner Bewohner, seines Thier- und Pflanzenlebens und Untersuchungen des Meeresgrundes nahe der Küste", Braunschweig, 1868; libraries, NHM Vienna.

with you by marching forward. This way it was under my control to direct the bell in quiet water and moderate depth without needing a boat with a crane, in case of emergency I could easily exit the bell and rescue myself by swimming. The regeneration of the air had to be done by the help of a long hose operated by an air pump placed either on land or a boat."

For his first trial on 25th November 1864 he hired a heavy European boat with six Indians as helpers and sailed with it to a small bay close to Galle. There the diving bell was set into the

water and the weighs (cannonballs put into nets) were distributed equally. A hose connected to an air pump on the boat was inserted and then the whole apparatus was brought into deep water. The sight of a dead dog floating on the surface nearby was a very welcome sight to RANSONNET as it proved to him that there were no sharks to be feared. RANSONNET tried his diving bell several times. The bell was heaved into the water. RANSONNET jumped from the boat into the water and dived into the bell. RANSONNET describes this: "...a strong header from the edge of the heavy boat brought me into the depth. Immediately I found myself in the diving bell; cautiously I slid inside and started breathing in the confined space, in which all the sounds had a benumbing echo between the iron walls..." (RANSONNET 1868: 13–14). RANSONNET even managed to walk on the seabed at a depth of between 5 and 7 meters. Sitting in his bell he was able to observe the underwater world for the first time undisturbed for longer and had the chance to take sketches on the spot. Despite the not completely avoidable respiratory self-pollution of his bubble of air and the continuous supply with air through a hose he stayed up to three hours and more beneath the water.

RANSONNET was truly fascinated by what he saw and by the opportunity to record it: "Strange seemed the light effects down there in the sea so I paid special attention to it. Bluegreen is the basic tint of the underwater landscape and especially of all bright objects, whereas dark, e.g. blackish rocks and corals, and far away shadows, seem to be wrapped in a monotone maroon, which is in complementary relation to the colour of



aa Fenster.
bb BB Gewichte.
c Luftschlauch.
d Wasserstand innerhalb der Glocke.
e Boot.

the water.” (RANSONNET 1868: 16). In a further passage he states: “[...] the underwater landscape gradually lit up, and in the shimmering, emerald-green light, illuminated by the sun, there stretched out before me the sandy seabed, on which the gleam from the playful waves created an interweaving pattern of colourful bands of light. Here and there, individual groups of coral were growing on the stones in the sand, and a reddish shadow in the distance signalled the area where a twenty foot high and five to six foot thick block of Madreporaria (stony corals) rose up from the depths in a fantastic shape [...] eagerly I stretched out my hand towards a coral, but could not touch it, just like a child who tries to grasp things beyond its reach, because in the water everything seems to be so deceptively near and, at the same time, smaller, so that one’s normal sense of distance and size is completely lost. You soon realize that in the depths of the ocean you need not only learn how to move, but how to see and hear as well.” (RANSONNET 1868: 15–16)

Sitting in the bell and looking out of the windows he watched the beauty of this world:

“Only a few feet in front of me I saw a wonderful two and a half feet high group of corals [...] In the background of the scenery expanded a sandy plain, which glinted in clear emerald green through the crystal bright water. In the distance a rock jutted out to the surface, but further away everything was blurred in a maroon shade. Bit by bit the fishes – the butterflies of the sea – which first kept away began to swarm around me, who could describe their enchanting colours, when the glow of the waves swept along their fluorescent scales.” (RANSONNET 1868: 132)

But not only lyrically RANSONNET tried to capture the atmosphere of this new world. Using a special varnished paper (his own invention) he was able to take pencil sketches, which he coloured later. RANSONNET wrote about his working method: *“I used a greenish-coloured varnished paper, which allowed me to draw on it with a soft pencil even when wet. The finished sketch was put into a tin box and transported out of the bell by diving; a second layer of varnish kept the sketch from being blurred, finally it was coloured with transparent oil paint.” (RANSONNET 1868: 133 footnote)* The sketches described and presented here are definitely the only original pictures taken in the diving bell. For a long time, these sketches were thought to be lost (ROITHER 2006; PORTMANN 1970: 4–5) But as this new research (by the authors) suggests the two pictures held in the Artistic Collections of the MOM and erroneously filed as “aquarelles” seem to be these “lost” original pencil and oil-sketches, which RANSONNET made actually sitting in his diving bell in 1864/65. (Fig. 8 A, B & 9 A, B)

Beside the traces of the varnish and oil paint, hand-written remarks by RANSONNET on the paper support and strengthen this theory. Object 10033 (Fig. 8 A) bears a hand-written pencil-remark by RANSONNET saying: *“cloche de plongeur Ceylon, Licht von links, Ceylon Originalstudie in der Taucherglocke gez., 9 ½ –1 Uhr, Galle lighthouse, 3/2”* and in German: *“Ceylon Originalstudie in der Taucherglocke gez.”* The caption on the passe-partout (Fig. 8 B) of the same picture (in German in RANSONNET’s ink hand writing) clarifies February 3rd, 1865 as the exact date: *“Korallengruppe an der Küste*



Fig. 8. **A:** Eugen VON RANSONNET: IO-Obj-10033 (without passe-partout), Ceylon Originalstudie in der Taucherglocke gez., 1865, MOM Collection. **B:** Eugen VON RANSONNET: IO-Obj-10033 (with passe-partout), Korallengruppe an der Küste von Ceylon in der Taucherglocke gezeichnet beim Leuchtturm von Point de Galle am 3. Februar 1865 (9½–1 Uhr), MOM Collection.

von Ceylon in der Taucherglocke gezeichnet beim Leuchtturm von Point de Galle am 3. Februar 1865 (9 ½ – 1 Uhr)". On Object 03123 (Fig. 9 A) it says: "cloche de plongeur 1864, RANSONNET Ceylon, Galle 1864" and on the back side (Fig. 9 B) RANSONNET drew a sketch from the diving bell. This sketch was obviously the draft for the illustration in the book about Ceylon (here Fig. 7) showing the diving bell. The remarks on the direction of the light and the exact time also demonstrate RANSONNET's intention to be as realistic as possible. Every detail he included in his pictures – not only the light situation – had to be naturalistic. But apart from being naturalistic and scientifically precise his pictures at the same time try to capture the lyrical and romantic atmosphere of the world underwater. The lyrical descriptions in the text of his book match and reflect the tone of his illustrations. RANSONNET's aim was to take his contemporaries underwater and let them feel the magic of this unknown realm by observing closely. RANSONNET's pictures are therefore a mixture between romantic-lyric underwater-landscapes and super realistic observations of the inhabiting organisms. This combination is emphasized by RANSONNET's own statement of 1863: "*The submarine views drawn by me are only the first, weak attempt in this unprocessed field. The Claude Lorrain and the Rosa Bonheur of the underwater landscapes might not even have been born yet.*" (RANSONNET 1863: preface). The fact that RANSONNET names those two artists as reference for his own work is also very meaningful. Whereas Claude LORRAIN was renowned for his romantic perception of his landscapes Rosa BONHEUR the famous 19th century animal painter was praised for her highly realistic observations. RANSONNET's own work can therefore be interpreted as a combination of these two artistic polarities. The underwater-oil painting (Fig. 3) held in the NHM Vienna and based on these sketches is probably the best prove

**A****B**

Fig. 9. **A:** Eugen VON RANSONNET: IO-Obj-03123 (front side), 1864, MOM Collection. **B:** Eugen VON RANSONNET: IO-Obj-03123 (back side), 1864, MOM Collection.

of this imagery. This painting – the first authentic underwater oil-painting in the history of science and art – is probably the most mature masterpiece of RANSONNET's underwater oeuvre. How important the realism of his pictures was for RANSONNET becomes clear when you look at the effort and labour he put into his trials with the diving-bell. A study in watercolour held in the archives of the NHM Vienna shows a fish that is depicted in the Viennese oil painting and in a lithographic illustration in his book about Ceylon. This study again illustrates the fact that RANSONNET put a lot of effort into the exactness of even tiny details. This is also confirmed by himself stating, that he studied the fish of the Indian Ocean on the living objects (RANSONNET 1868: p. X).

Historical re-enactment of RANSONNET's diving trials

In 1998, on the occasion of the NHM's 250th anniversary, an authentic reproduction of the diving bell was placed on display (Fig. 10). In the months leading up to the opening of this new exhibition, researchers and a film crew from the NHM Vienna made a trip to Opatija, Croatia. Their aim was to photograph and film the diving bell in action, with the resulting photos and film clips forming part of the exhibition in Vienna. Opatija was chosen because RANSONNET owned a seaside villa there. In the end, the team decided to carry out the dives in Lovran, 5 km south of Opatija, because the working conditions were better there. Not only is Croatia closer to Vienna but the Adriatic Sea is in this part is also very quiet which made the trial easier.

The replica of the diving bell was made by the Viennese model-maker Josef HIRSCH using 1.5 mm thick sheet iron covered with a layer of bitumen. The panes were made from Plexiglas (2.4 cm thick). The dimensions of the diving bell corresponded to the original dimensions given by RANSONNET (about 90 cm high, 70 cm wide, with 20 cm wide portholes). To save money, the diving bell was cold riveted and insulated using silicone. It is believed RANSONNET's original diving bell was hot riveted, as was the common practice at that time for pressure vessels. Various model-makers consulted agreed that hot-riveting would have resulted in a bell that was largely watertight. The maker of the replica bell, Josef HIRSCH, participated in the trials himself together with the team of divers (Christof VRZAL, Harald MELCHIOR, and Thomas TSCHÖP).

On 18th July 1998 the replica bell was lowered from the harbour wall at Lovran into the water using a pulley system and an inflatable boat. There was no pump available like the one RANSONNET would have used, so the bell was filled with air via an underwater tube connected to a tank of compressed air.

The bell's buoyancy had to be compensated using lead weights which were loaded into jute sacks from the inflatable boat (Fig. 11). This work proved difficult. All in all, more than 400 kg of tare weight was placed into four sacks attached to the outside of the diving bell. While the extra weight was being added from the inflatable boat, the members of the team had to ensure that the bell remained balanced and did not tip, which would cause the air to stream out and the bell to sink rapidly. Finally, the team managed to balance out the

Fig. 10. Full scale replica of the diving bell, NHM Vienna; Photo by Alice SCHUMACHER.

diving bell at a depth of around 3 meters (Fig. 12). Several people, including the authors (Stefanie JOVANOVIĆ-KRUSPEL and Andreas HANTSCHK), dived down into the bell and took up their position at the movable iron strap. From there they were able to check that the air supply was working properly and that the three portholes afforded good views of the area around the diving bell.

During the second attempt, one day later, the team wanted to optimize the handling of the diving bell. Work progressed significantly faster than the day before, with the team able to anchor the bell at a depth of 4 to 5 meters. Once again, several members of the team dived down into the bell, though the rocky ocean floor made it impossible to carry out a walk on the seabed like the one described by RANSONNET. This attempt was observed by the local press and reported on by Opatija's local newspaper (Novi List, 20th July 1998).

To conclude, it turned out that the manoeuvring of the apparatus was very difficult and required considerable skill and practice. RANSONNET must have been full of sporting spirit, because although the diving-bell functioned perfectly the first trials could not be carried out without the support of modern diving equipment. However, in good conditions and with plenty of practice, it is certainly possible that it would have been possible to recreate RANSONNET's dives under the same conditions (KRUSPEL & HANTSCHK 2001).

The underwater-periscope

But even for RANSONNET the efforts necessary for his diving-bell experiments seem to have been too complex and too expensive to carry on. Fact is that RANSONNET did not repeat these trials after his journey to Ceylon (1864) but rather looked for a new technique to observe the underwater world. In a letter to the Prince of Monaco kept in the archives of the MOM from 1920 he wrote, in French, about this development:



Fig. 11. Setting the replica bell into the water on 18th July 1998 – a pulley system and an inflatable boat were necessary to keep the bell from tipping over; Photo by Andreas HANTSCHK & Peter ELSTER.



Fig. 12. Keeping the bell's buoyancy under control proved quite difficult – lead weights which were loaded into jute sacks had to be used to compensate it; Photo by Andreas HANTSCHK & Peter ELSTER.



“je construisis une petite cloche à plongeur qui me mit en état de dessiner sous mer d’après nature des groupes de corail sur la côte de Ceylan. Dans la suite j’ai continué ces études dans la mer adriatique en me servant d’un appareil très simple muni d’un miroir qui me permit non seulement de contempler à mon aise le paysage sous-marin comme si je me trouvais au dessous de la surface de la mer, mais aussi de dessiner et de peindre à l’huile des paysages intimes sous-marins comme un paysagiste fait ses croquis. La différence des effets de lumière ainsi que de toutes les nuances de couleur qui se présentent au spectateur sous la surface est, comme Votre Altesse saura autant que moi, tout à fait différent de ce que l’on voit d’une barque ou d’un rivage, et il s’agissait pour moi non seulement des détails mais encore de la valeur des tons.” (letter by RANSONNET, 3rd March, 1920, Archives, MOM)

The mirror-apparatus or periscope he used since Ceylon for his underwater explorations was designed and built by himself. Unfortunately there are no detailed descriptions and sketches on this device. A possible predecessor can be seen in David BREWSTER's underwater telescope, which he published in 1813 (BREWSTER 1813: 427). This telescope was designed to observe the underwater world and it was described 1815 in Germany like that: *"With this telescope one can see into the depth of the seabed and spot plants, fish, insects and all objects [...] the natural scientist are able to observe fish, water animals and plants as well as strata in rivers and oceans; corals, pearl mussel and fish can be found [...]"* (ANONYMOUS 1815: 639)

RANSONNET's underwater pictures of the Adriatic Sea were all based on observations through this simple but ingenious device. As the statement by RANSONNET above illustrates (letter by RANSONNET, 3rd March 1920, Archives, MOM) once again the realistic representation of the submarine light-situation was one of the most important aims for RANSONNET. He described his working procedure as follows: First he made an oil sketch with the help of the periscope to capture the general impression of the underwater landscape, then he collected animals and plants, which he needed for the painting and placed them in a crystal vase filled with sea water. There he could observe, study and paint them carefully. In this way he was able to create underwater pictures that capture both the colour tones and the fauna and flora under water in a scientifically exact way. Beside the pictures in the NHM Vienna and the MOM two underwater charcoal drawings are held in the Austrian National Library (Picture Archives). Both show the maritime world of the Dalmatian coast. Most of the pictures by RANSONNET from the Adriatic Sea were created in Dalmatia in the small cave on the island Busi (today Biševo). This cave was (as already mentioned above) explored and opened for tourism by RANSONNET in 1884. By enlarging the entrance RANSONNET made the cave accessible for boats. Visitors were intrigued by the blueness of the sea in the cave similar to the famous blue grotto of Capri. Soon the blue grotto of Busi became an important tourist sight.

RANSONNET used his periscope to create pictures at the island Busi (Fig. 13), which were exhibited 1913 in the "Adria-Ausstellung" in Vienna. (RANSONNET: *"Mes vues de l'Adriatique, prises surtout en Dalmatie sur les côtes de la petite île de Busi, ont été exposées à Vienne lors de la 'Adria-Ausstellung' 1913."* (letter, 3rd March 1920, Archives, MOM)) This "Adria-Ausstellung" included a big theme park in the Prater-area in Vienna with reproductions of streets and houses of cities and villages along the Adriatic coast, among them also Volosca where RANSONNET had his villa.

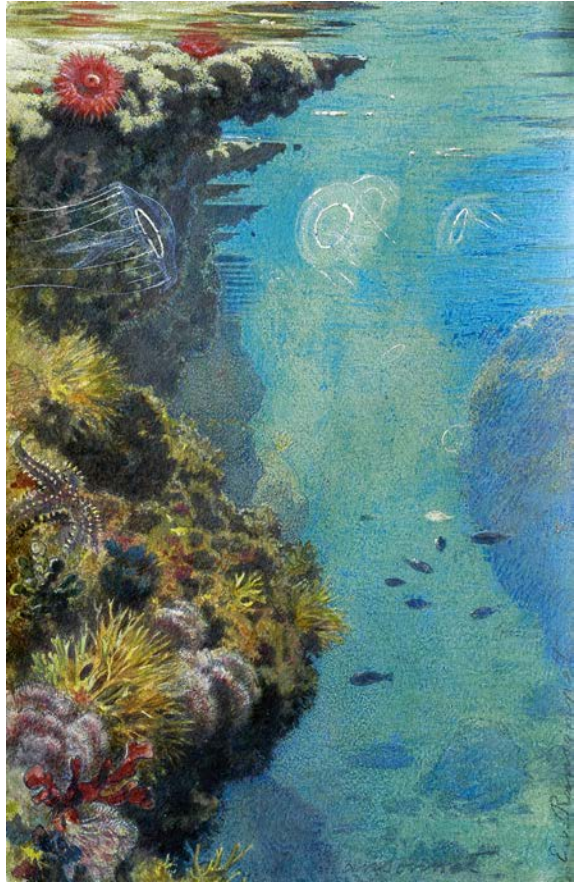
After the closure of the exhibition Professor Albrecht PENCK (1858–1945), director of the Geographical Institute and of the Museum for marine science in Berlin, took interest in the pictures. But the purchase of them was prevented due to the outbreak of World War I in 1914. In 1920 RANSONNET wrote to the Prince of Monaco and offered him his pictures for his museum:

"Après la clôture de l'exposition, le Professeur Penck exprima le désir d'acquérir mes vues sous-marines pour le musée de Berlin: 'Museum für Meereskunde'. Malheureusement

Fig. 13. IO-Obj-03120; Motive from the entrance to the blue grotto of Busi; watercolour, signed E. v. RANSONNET, MOM Collection.

la guerre mit fin aux négociations, d'autant plus que Penck était parti pour l'Australie. Or il m'est venu l'idée qu'il n'y aurait pas de plus digne place pour les vues en question que votre musée à Monaco, et par conséquent j'ose m'adresser à Votre Altesse en Vous demandant si Vous n'en voulez pas devenir acquéreur." (letter from RANSONNET, 3rd March, 1920, Archives, MOM)

The Prince put the director of the Museum Dr. Jules RICHARD in charge of the negotiations with RANSONNET. The correspondence between Eugen VON RANSONNET and Jules RICHARD is held in the Archives of the MOM. Some of the underwater pictures RANSONNET wanted to sell to the MOM were in



the year 1920 in Monaco: RANSONNET obviously sent them to Monaco for an Italy-exhibition held in the palace of the Prince and so RANSONNET hoped the Prince could go there and see them. But as it turned out, the pictures were not put on display because the committee responsible thought they were not directly related to the aim of the exhibition. RANSONNET was very disappointed by this decision as he thought the MOM to be the best place for his pictures:

"Ils sont le fruit d'études et d'un labour de plusieurs années, de privations et de fatigues, et vous comprendrez que ce serait pour moi une grande satisfaction de les savoir admis pour bon dans le Musée de Monaco." (letter from RANSONNET, 28th March 1921, Archives, MOM)

Finally Dr. RICHARD managed to see RANSONNET's pictures and so in June 1921 17 pictures were purchased by the museum in Monaco. Some of RANSONNET's pictures were presented in the conference room of the museum close to pictures by Zarh PRITCHARD (Fig. 14).

Again (as already in Vienna) it seems that it was RANSONNET's aim to have his pictures exhibited in a place dedicated to the exploration of the underwater world. Whereas the

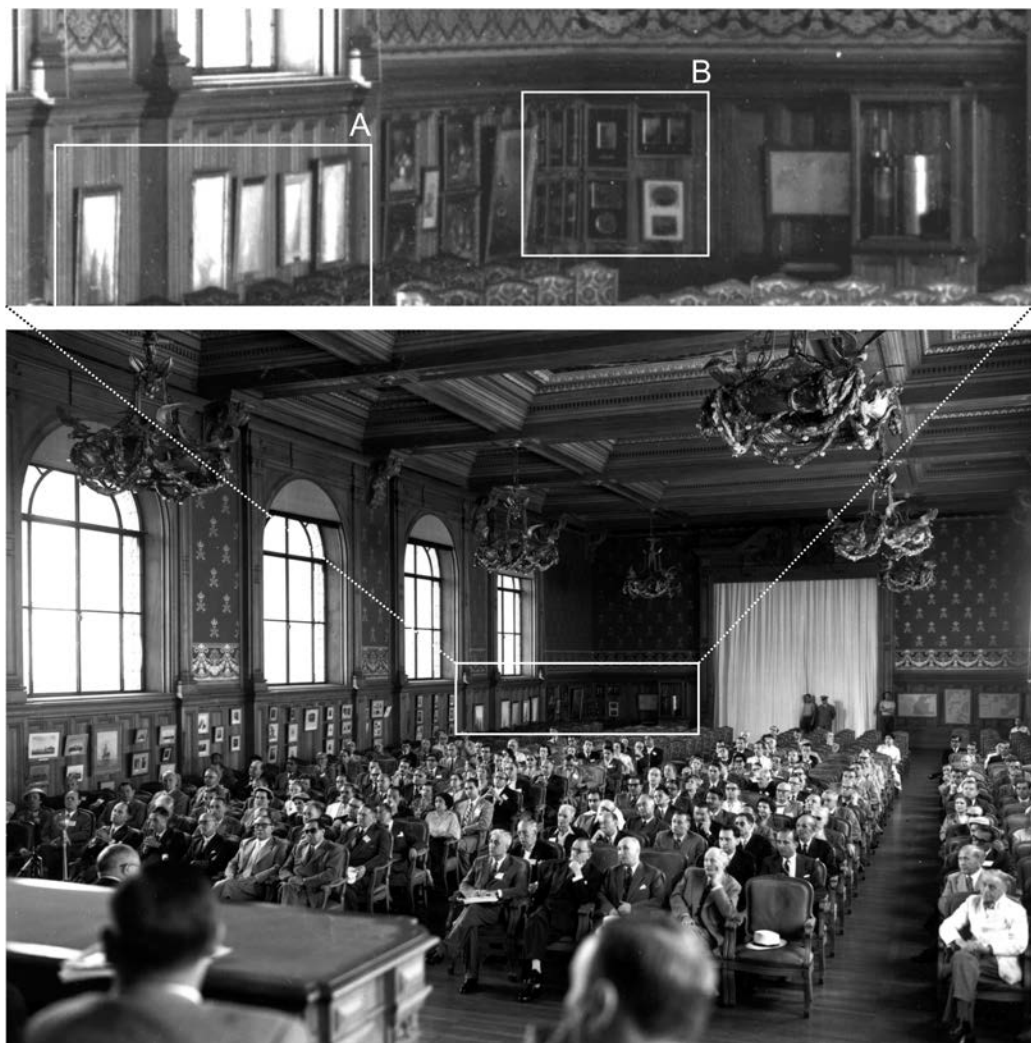


Fig. 14. Photo of the 1960s showing the conference room of the MOM with pictures by PRITCHARD (A, 5 frames) and RANSONNET (B, 10 frames) on the walls; MOM Collection

pictures in the NHM Vienna were in the same room with the collections of corals, this link to the specimens was obviously not given in Monaco. Still it was important to RANSONNET to have his pictures in a relevant museum.

After his visit to Ceylon in 1865 RANSONNET began to experiment with colour photography. His method of colour separation with glass bottles filled with coloured liquids failed at the insufficient photosensitivity of the collodion plates (EDER 1905, 1932; ÖAW: Österr. Biographisches Lexikon 1815–1950)

RANSONNET was therefore unable to imagine the fast and impressive development underwater photography and filming was to take in the future. Instead, he put a lot of effort into

the development of new techniques in colour-lithography, in which he became a master. Using only the three primary colours (red, yellow and blue), he achieved remarkable coloured illustrations. In his book about Ceylon, he mentions that the Austrian zoologist and research traveller Ludwig Karl SCHMARDA (1819–1908), and the famous Austrian landscape painter Josef SELLENY (1824–1875), who accompanied the Austrian research expedition Novara 1857–1859 as an expedition-painter, helped him complete this publication. Obviously, RANSONNET took no risk of making any mistakes and had his book not only scientifically but also artistically checked by experts. When the Austrian marine biologist and diving pioneer Hans HASS (1919–2013), who became world famous for his underwater-photographs and movies saw RANSONNET's pictures for the first time in the NHM Vienna he was truly fascinated by its realism in lighting, colour tuning and the exactness of the animals and corals shown.

For RANSONNET's oeuvre, the scientific approach to the world under water cannot be overestimated. It was his aim to open this inaccessible realm to the eyes of his contemporaries like a real underwater explorer but at the same time, RANSONNET also felt like a real artist. He saw himself as the precursor of a completely new art genre in painting. Especially his underwater oil painting in the NHM Vienna illustrates this artistic approach. Showing a scientifically accurate representation of the world under water this painting is at the same time an artistic symbol of man's transience. By adding a human skull (see Fig. 3, in the foreground on the left) lying on the seabed and creating a mysterious atmosphere by the means of lighting and colour this picture visualizes the magic and the fear of the uncertain deep in the subconsciousness of the late 19th century. (A hundred years later Carl Gustav JUNG (1875–1961) saw water or seawater as symbol for his concept of the collective unconscious.) It almost seems that RANSONNET artistically had a premonition of the disasters that loomed over Europe at the dawn of the new century. Eugen VON RANSONNET's daring attempt to open this new and inaccessible world to his contemporaries deserves being remembered. His true love for the Sea made him overcome even seemingly insuperable boundaries.

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