**The Peter J Morgane Research Collection on the Cetacean Brain, 1962-2010**

*Collection on loan to the University of New England by David J. Mokler, PhD*

*Collection processed by Samia Pratt (UNE ’20) and Morgane Project Student Team, 2017-2019*

*Scans of project slides (Series 1) created and organized by Morgane Project Student Team: Ally Karriker, Abby Rusling Flynn, Em Attenborough, Megan Miller, Aubrey Szoke and Samia Pratt*

**History:**

Dr. Peter J. Morgane (1927 – 2010) was a neuroscientist who took a special interest in the neuroanatomy and function of the *cetacean* brain. From 1962-2004 Dr. Morgane worked with colleagues performing experiments, analyzing and mapping the brain of the *cetacean*. One aim was to create an Atlas of the Dolphin Brain. Although a complete atlas was not published, Morgane and his peers published many groundbreaking scientific papers on the various aspects and functions of the *cetacean* brain.

**Description:**

This collection focuses on Dr. Morgane’s and collaborators’ work on the *cetacean* brain. The project he led in the 1960’s conducted procedures and scientific experimentation mainly on dolphins, resulting in many scientific papers and the creation of a large number of neuroanatomical images and diagrams. He conducted this unique original scientific research and experiments on those animals prior to the passage of the Marine Mammals Protection Act of 1972. Morgane and his colleagues continued to publish original scientific papers from this work through 2004. In addition, Dr. Morgane and colleagues also investigated the limbic system and the effects of prenatal protein malnutrition on the developing brain. Some of this work is also included in this collection.

The collection contains 45 boxes of glass and film slides, thousands of photographic prints, X-rays, mounted photographic prints, photomicrographs, as well as manuscript papers, personal notebooks, Dr. Morgane’s Masters and Doctoral theses, and hard copies of scientific papers. This collection encompasses Dr. Morgane’s extensive work on the *cetacean* brain. Within the slides and their digital slides can be occasionally be found some images from other experiments. Nissl and Golgi staining is sometimes detectable in black and white prints from the print series as well as in the high resolution digital color photographs of a sampling of the tissue slides from the Patrick R. Hof Tissue Slide Collection at the Icahn School of Medicine at Mount Sinai in New York, NY. Also digitized is the series from Series 3 of reproductions of unstained brain tissue slides.

**Organization:**

The collection is organized into five series: 1) Personal Notebooks, Manuscripts, Correspondence, Theses and CV’s 2) Glass and Film Slides, Digital Copies of Glass and Film Slides 3) Prints and Negatives (Unmounted photographic and photomicrographic)
THE PETER J MORGANE RESEARCH COLLECTION ON THE CETACEAN BRAIN, 1962-2010

4) Mounted Prints and Original Mounted Artist’s Diagrams; 5) Scientific Papers; Digital Files of Corresponding Figures

Series 1: Personal Notebooks, Manuscripts, Correspondence, Theses and CV’s

Description: This series contains Morgane’s personal writings, correspondence, marked up manuscripts, original versions of his theses and hard copies of his C-V.

Arrangement: Arranged in original order, primarily by subject

Box 1 – Personal Notebooks, handwritten notebook: ‘Handbook of the Hypothalamus’
   Arranged chronologically
Box 2 – Correspondence, Notes, Manuscripts
   Arranged by subject
   Folders PJM.001.004.001 – PJM.001.004.035
Box 3 – Correspondence, Notes, Manuscripts
   Arranged by subject
   Folders PJM.001.004.036 – PJM.001.004.055

Series 2: Glass and Film Slides, Digital Copies of Glass and Film Slides

Description: The 27 slide boxes contain glass and film slides used by Dr. Morgane for research, lectures and papers. They depict many subjects and activities such as: the procedures themselves, cetacean brain tissue, stereotaxy, various dissections, perfusions, examinations of the cortex and thalamus of the cetacean brain, use of anesthesia, the cardiovascular system, brain surface features, paleocortex, histology, fetal material, and others. Boxes and slides are numbered consecutively in the order in which they were originally arranged.

From these slides, digital scans were created at 1200 dpi resolution. Digital versions are accessible. Excel spreadsheets were created, noting each individual slide, recording the set, box number, slide number, category of the image, activity, slide type and size; notes on the slide and box as well as anatomical structure, subject noted, animal type, dolphin number, related publication title and figure number or reference as well as a thumbnail of the image on the slide are included. Excel sheets are accessible online. A cetacean specific version of each spreadsheet was then made, allowing focus on Dr. Morgane’s cetacean work.

For research access to information about digital scans of slides, researchers may request a copy of the excel file describing them. The file contains a thumbnail image of the original glass or film slide and in-depth descriptions of the content of each slide. The slides are identifiable via their four-digit catalog number in the
excel file as well as written on the original slide. From that resource, high-resolution files of the corresponding image may be requested for research. Publication is by permission only and only with proper attribution and credit.

Series 2: Glass and Film Slides, Digital Copies of Glass and Film Slides, Cont’d.

Arrangement: Arranged by project catalog number;
Container list:
Boxes 4-10 – Glass and Film Slides
  Box 4 – Slide boxes 01-03 (slides pjms0001-pjms0132)
    Slide Box 01  pjms0001-pjms0022
    Slide Box 02  pjms0023-pjms0038
    Slide Box 03  pjms0088-pjms0132
  Box 5 – Slide boxes 04-06 (slides pjms0133-pjms0204)
    Slide Box 04  pjms0133-pjms0156
    Slide Box 05  pjms0157-pjms0187
    Slide Box 06  pjms0188-pjms0204
  Box 6 – Slide boxes 07-09 (slides pjms0205-pjms0341)
    Slide Box 07  pjms0205-pjms0223
    Slide Box 08  pjms0224-pjms0287
    Slide Box 09  pjms0288-pjms0341
  Box 7 – Slide boxes 10-12 (slides pjms0342-pjms0502)
    Slide Box 10  pjms0342-pjms0416
    Slide Box 11  pjms0417-pjms0471
    Slide Box 12  pjms0472-pjms0502
  Box 8 – Slide boxes 13-15 (slides pjms0503-pjms0570)
    Slide Box 13  pjms0503-pjms0518
    Slide Box 14  pjms0519-pjms0546
    Slide Box 15  pjms0547-pjms0570
  Box 9 – Slide boxes 16-21 (slides pjms0571-pjms0978)
    Slide Box 16  pjms0571-pjms0596
    Slide Box 17  pjms0597-pjms0651
    Slide Box 18  pjms0652-pjms0732
    Slide Box 19  pjms0733-pjms0850
    Slide Box 20  pjms0851-pjms0903
    Slide Box 21  pjms0904-pjms0978
  Box 10 – Slide boxes 22-27 (slides pjms1373-pjms2560)
    Slide Box 22  pjms1373-pjms1493
    Slide Box 23  pjms1494-pjms1589
Series 3: Prints and Negatives (Unmounted photographic and photomicrographic)

Description: Photographic prints document almost every aspect of the cetacean brain work that was done documenting procedures, equipment, and staff of the dolphin project. They include hundreds of photographs of tissue slides created from the harvested Cetacean brains; and photomicrographs of brain tissue. The contents are separated into Photographs and Mounted Prints. The Photographs/Prints were then arranged by size: 11x14”, 8x10”, 16x20” and Other. They were then arranged by subject within their size.

- Boxes 11-20: 11x14” prints: Photomicrographs, Whole Brain and Whole Brain Dissections, Tissue Slides
- Box 21-22: 16x20” Tissue Slide prints pertaining to Dolphin 3
- Boxes 12, 13, 23-25: Negatives, 8x10” and smaller prints: Project photos, Tissue slides, Whole Brain and Whole Brain Dissections, Skull and Skeletal, Spinal Cord and Brain Stem, Photomicrographs, Diagrams and Illustrations.
- Box 26: Large Prints: Angiograms, Whole Brain and Whole Brain Dissections, Skull and Skeletal, Diagrams and Illustrations
- Box 27: Original plates from a published paper on Blood Supply

Arrangement: Arranged by size and then by subject unless otherwise indicated.

Container list:

Box 11 – Photomicrographs
Arranged by originally annotated date and by field number, then by test number and then by 4-digit catalogue number

Box 12 – Photomicrographs
8x10 Photographs arranged by originally annotated date and by field number, then by test number and then by 4-digit catalogue number

Box 13 – Photomicrographs
Arranged by originally annotated date and by field number, then by test number and then by 4-digit catalogue number

Boxes 14 – 15 – Whole Brain and Whole Brain Dissection Photographs
Arranged by species and then by animal number (1-3)

Box 14 Species List:
Balaenoptera physalus (Fin Whale)
Delphinapterus leucas (Beluga Whale)
Homo sapiens (Human)
Inia geoffrensis (Amazon River Dolphin/Pink Dolphin)

Box 15 Species List:
Orcinus orca (Killer Whale)
Physeter microcephalus (Sperm Whale) (may be labeled as P. catadon)
Phocoena phocoena (Harbor Porpoise)
Tursiops truncatus (Bottlenose Dolphin)

Series 3: Prints and Negatives (Unmounted photographic and photomicrographic), Cont’d.

Boxes 16-20 – Tissue Slide Photographs (11x14)
Arranged by 4-digit tissue slide catalogue number, then by dolphin number (1-3)
Box 16 Holds 100 – 995
Box 17 Holds 1000 – 1399
Box 18 Holds 1400 – 1795
Box 19 Holds 1800-2395
Box 20 Holds 2400-3615 and un-numbered

Boxes 21 – 22 – 16x20 photographs of unstained tissue slides, dolphin 3#, coronal samples
Arranged by 4-digit tissue slide catalogue number
Box 21 Holds : 1265-2055
Box 22 Holds: 2065-2735

Box 23 – Normal sized Negatives and Prints with Negatives
Subject
Angiograms
Diagrams
Diagram/Illustration
Experiment
Miscellaneous
Photomicrograph
Tissue Slide
Ventricles
Whole Brain
Whole Brain Diagram
Whole Brain Dissections
X-Ray

Box 24 – Large and Miscellaneous Negatives
Arranged by size from large to small

Box 25 – 8x10 Photographs
Subject
Diagrams and Illustrations
Project/Experimental Photos
Fetal Dolphins
Whole Brain and Whole Brain Dissections
Tissue Slide Dissections
Skull and Skeletal
Spinal Cord and Brain Stem

Box 26 – Large Photographs
Subject
Diagrams and Illustrations
Non-Cetacean Illustrations
Box 27 – Blood Supply Paper Plates
Kept in original order

Series 4: Mounted Prints and Original Mounted Artist’s Diagrams
Description: Mounted prints and diagrams annotated by project scientists represent the focus of the cetacean project work: creating images and figures that illustrate concepts and structures discussed in various published scientific papers. A project artist, Marcelino Obaya created the artwork overlaid on images taken from print images. Many are marked “Yakovlev” for project contributor Paul Ivan Yakovlev (1894-1983), curator of the Warren Anatomical Museum, and professor at Harvard Medical School.
Arrangement: Arranged by size and then by subject of mounted print.

Container list:
Box 28 – Mounted Diagrams and Illustrations (All sizes)
Box 29 – Mounted Photos of Experiments
Box 30 – Brain Atlas Sample Plates and Miscellaneous Mounts (X-Large sizes)

Series 5: Scientific Papers; Digital Files of Corresponding Figures
Description: Print copies of Dr. Morgane’s published works pertaining to cetaceans. Select print copies of other scientific papers published by Dr. Morgane from 1951 – 1990, including correspondence relevant to the publication. The other portion of this series is comprised of scientific papers pertaining to cetaceans written by other authors held and often annotated by Morgane. This portion of the series is arranged by the author’s last name. These papers are deemed to be somewhat less digitally accessible than more recent scientific papers. Figures from published papers have been reproduced and printed out in a binder for easy access.
Arrangement: Papers by Dr. Morgane are arranged by publication date, publications from others are arranged alphabetically by the first author’s last name.

Container list for hard copies:
Boxes 31A – B – Complete set of papers published by Dr. Morgane from 1964-1998 on cetacean neuroanatomy. Arranged by date of publication
Box 31 A – 1964 – 1979
Folders PJM.005.001.001 – PJM.005.001.011
Box 31 B – 1980 – 1998
Folders PJM.005.001.012 – PJM.005.001.023
Box 32 – Set of selected papers published by Dr. Morgane from 1951-1990 on subjects other than cetaceans. Arranged by date of publication
Folders: PJM.005.002.024 – PJM.005.002.056
Series 5: Scientific Papers; Digital Files of Corresponding Figures, cont’d.

Box 33 – Papers published by others (A-G). Folders: PJM.005.003.057 – PJM.005.003.101
Authors:
  Abel, O.;  Addison, W.H.F.;  Apes, H.W.;  Allen, H.;  Andrews, R.C.;  Anonymous;
  Anthony, M.R.;  Arpino, G.;  Beauregard;  Barnes, L.G.;  Belekhova, M.G.;
  Bianchi;  Bonnet, A.;  Breathnach, A.S.;  Brunner, A.;  Carte, A.;  Cuello, A.C.;
  Cunningham, D.J.;  Dawson, W.W.;  Dow, R.S.;  Drager, G.A.;  Duffield, D.;
  Flower, W.H.;  Fordyce, R.E.;  Fraser, F.C.;  Friant, M.;  Fuse, G.;  Galliano, R.E.;
  Gill, T.;  Graf, J.;  Grunthal, E.;  Guldberg, G.A.

Box 34 – Papers published by others (H-Q). Folders: PJM.005.003.102 – PJM.005.003.156
Authors:
  Kappers, C.U.;  Kellogg, R.;  Kesarev, V.S.;  Khomenko, B. G.;  Kojima, T.;  Kooy,
  Langworthy;  Larsell, O.;  Lede, R.A.;  Lilly, J.C.;  Major, H.C.;  Marsden, C.D.;
  Matsumoto, Y.;  McFarland, W.L.;  Mead, J.G.;  Miller, G.S.;  Mostre Golgi Map;
  Murie, J.; Brain of Cetacea; Nieto;  Nikitenko, M.F.;  Obersteiner, H.;
  Oelschlager, H.;  Ogawa, T.;  Osen, K.K.;  Payne (Whales and Whale Brain);
  Pilleri, G.;  Presssey. H.E.;  Purves, P.E.

Box 35 – Papers published by others (R-Z). Folders: PJM.005.003.157 – PJM.005.003. 200
Authors:
  Raven, H.C.;  Rawitz, B.;  Ray, J.;  Rehkamper, G.;  Reysenchach de Haan, F.W.;
  Riese, W.;  Romanes; Rose, M.;  Ross, M.W.;  Rothausen, K.;  Rusconi; Sanides;
  G.E.;  Slijper, E.J.;  Sollertineskaya; Spatz, H.;  Spitzka, E.C.;  Steinmann-Bonn, G.;
  Voronin, L.G.;  Walzl, E.M.;  Whitmore, F.C.;  Wilson, R.B.;  Wislocki, G.B.;
  Yamada, M.;  Yoshikawa; Zvorykin, V.P.;  Zweig, H.