

The Embryo Project Handbook

Created by the EP Editorial Team

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The Embryo Project

The Embryo Project (EP) captures and analyzes all interesting and relevant information regarding the history of embryo research and its multiple contexts, beginning with Aristotle and continuing through contemporary issues in the news today. This is a massive undertaking, and to organize content we have developed the following categories: people, place, organization, organism, technology, experiment, context, concept, religion, ethics, law, literature, image, and award. These categories highlight the most important aspects of the selected objects of interest with respect to embryo research and its context.

Authors start by creating a brief descriptive narrative for each object. These narratives are intended to reach a variety of audiences with different needs. The descriptive narratives are therefore written for a general audience and provide basic, non-controversial, and non-interpretive information about the particular object. Within each entry some words are hyperlinked to other descriptive narratives, or to images, or to literature entries. The short descriptive narratives provide an entry point to more in-depth scholarly documents, including peer-reviewed journal articles or interpretive essays already published in trusted information sources, and to images.

Research Objects

Our research objects are located within a FEDORA database. FEDORA is an acronym for Flexible Extensible Digital Object Repository Architecture. FEDORA organizes a variety of digital materials based on the relationships between objects. In addition to standard searching, this system allows for more sophisticated searches, such as for “student of ...” or “researchers at” It also allows for searches of relationships between biographies, images, and publications by a particular person, for example. The relationships between various research objects are incorporated into the FEDORA database by an input text document marked up in the XHTML format. Included within this XHTML document is metadata information, relationship information, and links to relevant objects in the FEDORA database.

General Guide to Writing Descriptive Entries

Descriptive entries are 500 – 1000 words in length and must be written for a general audience. Do not assume the reader has specialized knowledge on the entry topic.

- Each descriptive entry is a complete narrative, or **story**, requiring a clear beginning, middle, and end.
- The beginning of the story must clearly communicate **why the topic or object is relevant to the Embryo Project**. Do this in a few sentences in the introductory paragraph.
- Each descriptive entry highlights information that falls within the Embryo Project's categories: *people, place, organization, organism, technology, experiment, concept, context, religion, ethics, law, image, literature, and award*. Use these categories to focus your research.
- In the descriptive entry you must explain **why** you are including particular information. For example, do not list important people without explicitly detailing why they are important. Was the person a teacher? Mentor? Collaborator? Inventor?
- Use the EP list of relationships as a guide for determining what information is important.
- Highlight important objects and note in brackets the specific relationship of the article subject to that object. In an entry on Thomas Hunt Morgan, for example, one might include the concept of **regeneration** [contributedTo] and discuss Morgan's relationship with the **Johns Hopkins University** [obtainedPhD]. One might also discuss his relationship with **Ross Harrison** [workedWith] and with **Bryn Mawr College** [workedAt].
- **Specifics and accuracy are important**. When in doubt, include more information rather than less, especially related to the fourteen categories above. Your specifics must be factual and verifiable using trusted information sources.
- A descriptive entry is complete when you have made an effort to include information about all categories in the story, where appropriate.
- **Minimize your own interpretations**. Descriptive entries are fact-based entries.
- Include a complete list of references at the end using the reference guidelines in the *Embryo Project Style Guide*.
- Format according to *Embryo Project Style Guide* standards, e.g., include full names, italicize foreign words, etc.
- Consult the specialized category guides in this *Handbook* for more details and ideas on writing descriptive entries.

Naming Files

File names include the following information in the following order:

- **Category** (abbreviated), **Subject** (unique identifier), **Your initials**

Category abbreviations are as follows:

- People – Pe
- Place – Pl
- Organization – Orgz
- Organism – Org
- Technology – Tech
- Experiment – Exp
- Concept – Con
- Context – Cxt
- Religion – Rel
- Ethics – Eth
- Law – Law
- Image – Img
- Literature – Lit
- Award – Awd

Subjects are **unique identifiers** of the entry. Be as specific as possible. Take the file name from the **entry title** and **abbreviate appropriately**, e.g., “Interspecific Chimeras in Mammals: Successful Production of Live Chimeras Between *Mus musculus* and *Mus caroli*” can be shortened to “Interspecific Chimeras.”

For People entries, spell out the last name and include first and middle initials: “WilsonEB” or “MorganTH.” For all other entries, **capitalize** the first letter of each word with **no spaces** between words: “MizukoKuyo” or “TheCellInDevelopmentAndHeredity.”

Examples:

- People entry on Franklin Paine Mall by Kim Buettner is named PeMallFPKB.doc
- Literature entry on Organisers and Genes by Adam Navis is named LitOrganisersAndGenesAN.doc
- Organization entry on the Marine Biological Laboratory by Brian Schuermann is named OrgzMBLBS.doc

Specialized Guide to Writing *PEOPLE* Entries

Introduction (1 paragraph)

- **Who** is this person? Include the person's full name.
- **Why** is this person important to embryology? Use two sentences to explain.
- **When** and **where** was the person born? Include complete date and location.
- **Who** were the parents? List the mother's name followed by the father's.

Body (4–5 paragraphs)

- Convey specific information about the **education** and **career** trajectory of the individual. Include the specific **dates** degrees were awarded, the **specific name of the degree**, the **institution** that awarded the degree, and basic information about the focus of the **dissertation** work, if available.
- List the year of each academic **appointment** or **employment**. Include the full title and location of the position.
- Include any notable awards or honors the individual received. Indicate the exact year the award was given, and when relevant, the reason why it was awarded.
- Address the following questions:
 - **What** were the individual's significant contributions to the field of embryology?
 - What **concepts**, theories, or ideas motivated the individual?
 - Was the individual influenced or motivated by the work of any particular scientists or historically significant people? If so, **who**?
 - **How** did the individual conduct their research? Elaborate on particular **techniques**, **organisms**, or **experiments** associated with the individual.
 - What **concepts**, theories, or ideas did the individual advance?

Conclusion (1 paragraph)

- Summarize general contributions of the individual to the history of embryology, reiterating why they are featured in the Embryo Project.

Specialized Guide to Writing *PLACE* Entries

Introduction (1 paragraph)

- **What** was or is the full name of the place?
- **When, where, and by whom** was it first established? Be specific.
- **Why** is this place important to the history of embryology? Explain in two sentences.

Body (4 paragraphs)

- Communicate a very specific **description** of the place. Include details about **how** and **why** the place was created and **who** established it. Convey the story of the place. Elaborate the ways in which the place has changed or has not changed over time.
- Address the following questions:
 - **What** was the place?
 - **What** was the main function of the place?
 - **How** did the place contribute to embryology? Be specific.
 - **Who** held significant leadership roles in the place? Include full names, specific job titles, dates of appointment, and any other useful information.
 - Was the creation of the place influenced or motivated by any existing places? Which ones?
 - What **concepts**, theories, or ideas motivated the creation of the place?

Conclusion (1 paragraph)

- Summarize the general contributions of the place to the history of embryology, reiterating why it is featured in the Embryo Project.

Specialized Guide to Writing *EXPERIMENT* Entries

Introduction (1 paragraph)

- **Who** conducted the experiment? Include the person's full name.
- **What** was the title of the publication describing the experiment?
- **When** and where was it published? Be specific.
- **Why** is this experiment important to the history of embryology? Explain in two sentences.
- **What** was the question? Explain in one or two sentences.
- **What** was the hypothesis? Explain in one or two sentences.

Body (4 paragraphs)

- Communicate a very specific **description** of the experiment. Include details about the **experimental design** and explain **how** and **why** the experiment was conducted.
- Convey the story of the experiment. Elaborate on specific details of the organisms, technologies, and tools involved in the experiment.
- Address the following questions:
 - **What** was the experiment?
 - **How** was the experiment conducted? Include experimental design, technologies and organisms used, etc.
 - **Where** was the experiment conducted?
 - Did the author **collaborate** with anyone on the publication or the ideas relevant to the publication? If so, **who**?
 - Was the experiment influenced or motivated by the work of any particular scientists? If so, **who**?
 - What **conclusions** did the publication report?

Conclusion (1 paragraph)

- Summarize the general contributions of the experiment to the history of embryology, reiterating why it is featured in the Embryo Project.

Specialized Guide to Writing *TECHNOLOGY* Entries

Introduction (1 paragraph)

- **What** was or is the full name of the technology?
- **Who** created the technology? Include the person's full name.
- **When** and **where** was it first created? Be specific.
- **Where** was it produced?
- **Why** is this technology important to the history of embryology? Explain in two sentences.

Body (4 paragraphs)

- Communicate a very specific **description** of the technology. Include details about **how** and **why** the technology was created and **who** created it. Convey the story of the technology, including **where** the technology has been produced and who used it.
- Include specific ways in which the technology was **used**. Was it created to perform a specific function? Was it used for the intended function? By whom? Who used it for a different function? Why?
- Address the following questions:
 - **What** was the main function of the technology?
 - **How** did the technology contribute to embryology? Be specific.
 - Has the function of the technology changed over time? If so, how? Is the technology still used today?
 - **Who** used the technology? Include full names and specific institutions.
 - Was the creation of the technology influenced or motivated by any existing technologies? Which ones?
 - What **concepts**, theories, or ideas motivated the creation of the technology?

Conclusion (1 paragraph)

- Summarize the general contributions of the technology to the history of embryology, reiterating why it is featured in the Embryo Project.

Specialized Guide to Writing *CONCEPT* Entries

Introduction (1 paragraph)

- Define the concept in one or two sentences.
- **When** did the concept come into use in embryology? In what **context**? Include specific **dates**, where possible.
- Has the meaning of the concept changed over time?
- **Where** and by **whom** was it first used? Be as specific as possible.
- **Why** is this concept important to the history of embryology? Explain in one or two sentences.

Body (4 paragraphs)

- Communicate a basic **description** of the concept. Include details about the **context** in which it was created and convey the story of the concept, with respect to the Embryo Project, including **who** first promoted the use or definition or meaning and **for what reason**. Trace **how** and **where** the concept has been used.
- Include specific ways and **contexts** in which the concept has been **used**. Have different **people** prescribed different **meanings**? Who? When? Why? **How** has the concept been used in embryology? Is it also used in other fields? For other reasons? Do not elaborate on the definitions in other contexts, but indicate that the concept has different interpretations and meanings depending on context and perspective.
- Address the following questions:
 - **What** was the first definition?
 - Has the function or meaning of the concept changed over time? If so, **how**? Is the concept still used today?
 - Make sure to include full names, fields, disciplines, literature, and other relevant information.
 - What other **concepts**, problems, theories, or ideas influenced the creation of the concept?

Conclusion (1 paragraph)

- Summarize the general contributions of the concept to the history of embryology, reiterating why it is featured in the Embryo Project.

Specialized Guide to Writing *IMAGE* Entries

Introduction (1 paragraph)

- **Why** is this image or series of images important to the history of embryology?
- **Who** created the image? Include the person's full name and the date of creation?
- **What** does the image depict? Include a one to two paragraph description of the image.
- **How** was the image constructed? Briefly introduce basic information about the medium. Is it a photograph, oil painting, sculpture, or other?

Body (5 paragraphs)

- Communicate a very specific **description** of the image. Include details about the **content** of the image and explain **how** and **why** the image was created.
- Convey the “biography” of the image, beginning with the image's creation and then tracing **where** it has appeared, **why**, and **who** has owned the image?
- Include the specific **dates** of creation, and publication, the **specific places** where the image has been published or displayed, and full **names** of anyone who has owned the image.
- Address the following questions:
 - **Why** was the image created? Did the artist have clear reasons?
 - **What** were the **concepts**, theories, or ideas that motivated the creation of the image?
 - Was the image influenced or motivated by the work of any particular scientists or historically significant **people**? If so, **who**?
 - **How** was the image created? Elaborate on specific **techniques** and **tools** involved in the creation of the image, e.g., new photographic techniques, laparoscopy, microscopy, etc.
 - **Where** was the image created?
 - Where was it **first displayed or published**? Chronologically trace the history of the places the image is known to have appeared: magazines, books, journals, newspapers, art galleries, museums, the internet, text books, etc.
 - Did the artist or creator **collaborate** with anyone? Was the artist influenced by anyone such as mentors or formal teachers? **Who** were they?
 - What **concepts**, theories, or ideas did the image advance?

Conclusion (1 paragraph)

- Summarize the general contributions of the image to the history of embryology, reiterating why it is featured in the Embryo Project.

Specialized Guide to Writing *LITERATURE* Entries

Introduction (1 paragraph)

- **What** was or is the full name of the publication?
- **Who** was the author? Include both the person's full name and literary name if the two differ.
- **When** and **where** was it first published? List all publishing details.
- **Why** is this piece of literature important to the history of embryology? Explain in one or two sentences.

Body (4 paragraphs)

- Communicate a very specific **description** of the literature. Include details about **how** and **why** the piece was written and **who** wrote it. Convey the story of the literature, including a brief summary of the main points in the literature that are relevant to the history of embryology.
- Include specific ways in which the literature has been **used**. Has it performed any specific functions, e.g., a religious document? Why?
- Address the following questions:
 - **What** are the main points in the piece of literature that make it relevant to the Embryo Project?
 - **Who** was the intended audience? Who was the actual audience? Has the audience changed over time?
 - Was the author or were the authors influenced or motivated by any specific people or existing literature?
 - What **concepts**, theories, or ideas motivated the author(s)?

Conclusion (1 paragraph)

- Summarize the general contributions of the literature to the history of embryology, reiterating why it is featured in the Embryo Project.