

NONTRIVIAL COLLECTIONS

Igor Ya. Pavlinov

Moscow Zoological Museum

NONTRIVIAL COLLECTIONS

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TWO BASIC CONTEXTS



**“There is nothing either good or bad,
but thinking makes it so.”**

Prince Hamlet



**There are no collections
either trivial or nontrivial by themselves,
but some contexts make them so.**

Igor Pavlinov

TWO BASIC CONTEXTS

There are two basic contexts that make research museum collections either trivial or nontrivial.

Research museum collections:



consist of museum objects => **Museological context**

stored for conducting research => **Scientific context**



TWO BASIC CONTEXTS

MUSEUM NONTRIVIALITY of collections is closely connected to the nontriviality of certain curatorial tasks.



They involve “**museification**” of the materials acquired and stored by museums, i.e. their preparation, preservation, registration, labeling, etc.

TWO BASIC CONTEXTS

 **SCIENTIFIC NONTRIVIALITY** of collections is closely connected to the **nontriviality of ideas and research tasks** they allow to explore.

Of course, these ideas and tasks, in their turn, appear to be nontrivial in certain **general scientific contexts**



THE ORIGINS: FACTS



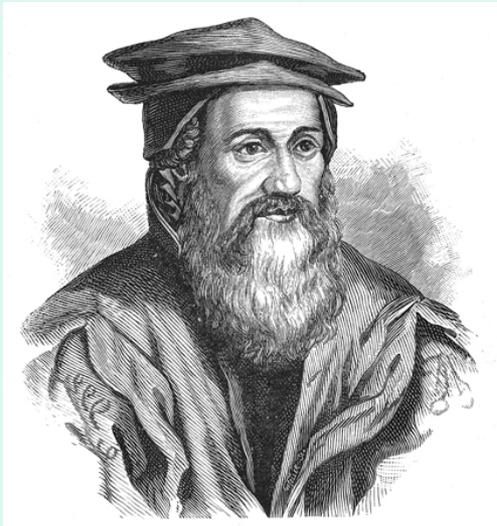
Otto Brunfels, 1488–1534.

Research museum collections were nontrivial in either context from their very beginning.

This was because the previous research practice of the so called **Herbal Epoch** dealt with natural objects drawings and not with preserved specimens themselves.

THE ORIGINS: FACTS

First natural history collection gatherers and holders of the 16th century



Conrad Gessner, 1516–1565



Gaspard Bauhin; 1560–1624

THE ORIGINS: FACTS

There were naturalists who rejected the very idea of keeping died and dried specimens



So, would l'Écluse's attitude would have prevailed over those of Gessner and Bauhin, there might be no natural history museum collections

Charles de l'Écluse, 1526—1609

THE ORIGINS: PHILOSOPHY

Emerging of early natural history collections in 16th century appeared to be a reaction of the Natural History, as a branch of Science, to emergence of a new Philosophy of Science that presumed certain **empirical argumentation** of the scientific knowledge.



In the Natural Philosophy (physics, chemistry, etc.) such an argumentation was and is provided by **standard experiments**.



In the Natural History (biology, geology, etc.) such an argumentation was and is provided by **standard collections**.



So, the research museum collections, in a sense, are **analogous to the experiments**.

They both are intended as a means for resolving **the same research task**: they make it possible to formulate and verify scientific hypotheses.

THE ORIGINS: PHILOSOPHY



Nota Bene! PHILOSOPHY: WHAT ARE COLLECTIONS FOR?

An idea that research museum collections, stored and explored in some standard mode, can be treated as an analogy of standard physical/chemical experiments, has been being developed for several recent decades.

It is actually nontrivial in itself, because it breaks a routine impression of collections as but a heap of old specimens of no interests and uses.

Such an impression prevails among non-museum and largely non-biological scientific and bureaucratic communities.

So, the interpretation in question has a great potential for museologists.

It can be used by museums administrations as a serious argument in defending scientific significance of museum collections when dealing with decision-makers.

THE ORIGINS: PHILOSOPHY

In order to understand why there are trivial and nontrivial collections and how the entire dynamics of triviality/nontriviality occurs, it is important to comprehend museum collection as a **developing system**.

At each stage of its development, a collection-as-system gains some **novelty** to append it to the older components and/or occasionally to replace them.



-  Those older are the “**trivial**” components of the collection-as-system.
-  That novelty is a “**nontrivial**” component of the collection-as-system.

THE ORIGINS: PHILOSOPHY



It is evident that **any novelties use to become olders** with time – so nontrivial collection component turns to be just another trivial.

Thus, development of a collection-as-system involves two interrelated processes:



— gaining new nontrivial collection component;



— their **trivialization** by their becoming a routine collection component.

INTERRELATION OF CONTEXTS

Two main contexts that determine collections nontriviality
— museological and scientific —



are **mutually interrelated** though still independent to a degree.

Their interrelatedness is shaped by a specific **positive feedback**.

Development of collections in one context
stimulates their development in another context.



INTERRELATION OF CONTEXTS



Appearance of new collections makes it possible to think of new ideas and research tasks that would be impossible without these collections.



Charles Darwin started his research career as a curator of large museum collection. The latter became one of the important sources of his idea of natural selection of individual variants. In Darwin's time, this idea was nontrivial.

INTERRELATION OF CONTEXTS

Originations of new scientific ideas and approaches use to call for new collections and for new forms of collection materials.

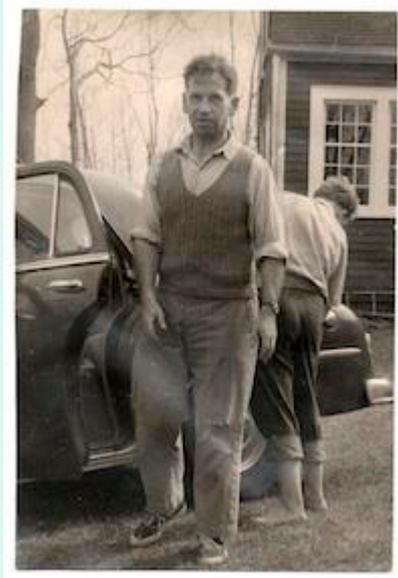
Carl Von Baer's ideas in the developmental typology stimulated active accumulation of embriological materials in the museums.



In his time, such collections were nontrivial (partly because Carl von Linne never used microscope).

INTERRELATION OF CONTEXTS

The most recent example is provided by development of DNA collections.



It was initially stimulated in the 1940es by Ernst Mayr's idea that phylogenetic relationships are best uncovered by genetic data.

These collections are still nontrivial in some “museum” respects, as manipulations with the tissue samples are partly destructive. The latter is contrary to the “classical” museum tradition.

QUALITY AND QUANTITY

The research museum collection is characterized by its quality and quantity:



— **quality** is determined by forms of collection materials,



— **quantity** is determined by amount of collection materials.

So, nontriviality of collections in either context may be possible due to their both **qualitative** and **quantitative** characteristics.



QUALITY AND QUANTITY



QUALITATIVE NONTRIVIALITY is caused by appearance of **new** (for the respective time) **forms** of the collection materials.

The above mentioned embryological and genetic collections are examples.

Currently, collections of animal acoustic signals became nontrivial.

QUALITY AND QUANTITY



QUANTITATIVE NONTRIVIALITY is caused by the fact that certain research tasks can be resolved only on the basis of **great amount** (hundreds or even thousands) of collection specimens.

Such collections are nontrivial with respect to the “classical” ones which usually limited to dozens of specimens.

The above Darwin’s idea about variation as a “source of material” for evolutionary selection is a paradigmatic example.

Currently, with various aspects of the biological diversity becoming one of the focal points in biological research, development of the so called “**population collections**” becomes quite important.

Such voluminous collections make it possible to study various aspects of within-species variation, morphological before all.

DIGITAL COLLECTIONS



Currently, one of the newest and largely nontrivial tasks being resolved by the natural history museums community is **digitization of the museum specimens**.

This task concerns both museological and scientific aspects.



This means that not the specimens themselves but rather their **digital representations** become collection objects and are processed in respective research.

DIGITAL COLLECTIONS



It is the “traditional” museum specimen itself, and not any kind of its representation, that contains **primary information** about original biological organism.



Any kind of the specimen representation contains **secondary information**, which depends on technology used for its extraction and transformation.

Therefore, “nontrivial” digital objects cannot substitute the “trivial” specimens in the collections – the former are but **complementary** to the latter.



NONTRIVIALITY AS A CURATORIAL PROBLEM



Collections do not exist and develop by themselves but due to certain curatorial activities.

Therefore, consideration of the dilemma of triviality/nontriviality of a collection-as-system involves inevitably certain curatorial problems.



Moreover, nontriviality itself can be considered as a **specific curatorial problem**, or rather a set of problems

Here they are, three of them:

NONTRIVIALITY AS A CURATORIAL PROBLEM

The problem N 1



Any system is afraid of novelties.



Curatorial activity is a part of collections-as-systems.

It is the collection curators conducting this activity that are “systemically” afraid of nontrivial collections.



So, some efforts are usually needed to apply to overcome curators' (unconscious) resistance to nontrivial collections.

NONTRIVIALITY AS A CURATORIAL PROBLEM

The problem N 2

-  Any system develops following optimality principle, according to which a developing system, at each development stage, can be optimized by just **one of possible parameters**.
-  Thus, in case of collection-as-system, **only one sort of nontrivial collection components** could be involved at each stage of the collection development.
-  An “excess” of nontriviality can disorder and eventually destroy collection.

NONTRIVIALITY AS A CURATORIAL PROBLEM

The problem N 3



As it was said above, one of the most significant trends in the development of any sort of museum collections is their “**trivialization**” in both fundamental contexts.



Therefore, one of the problems in museum curatorial activities is to promote **making collections trivial**.

AND YET, RESEARCH MUSEUM COLLECTIONS ARE FUNDAMENTALLY NONTRIVIAL

Let us recall two important points underlined above:

-  1. Research museum collections function in the biodiversity studies as an **analogy of experiment** in physics/chemistry.
-  2. The specimens, of which any collection consists, are the principal and maybe the only source of **primary information** about biological organisms.

From these it follows immediately that  research museum collections **cannot be outdated**

And thus they cannot be replaced by any kind of the specimens representations, however radically new and “nontrivial” they pretend to be.

AND YET, RESEARCH MUSEUM COLLECTIONS ARE FUNDAMENTALLY NONTRIVIAL

All this makes research museum collections of specimens,
as the natural objects, **fundamentally nontrivial**, indeed.



AND YET, RESEARCH MUSEUM COLLECTIONS ARE FUNDAMENTALLY NONTRIVIAL



So, one of the fundamental and quite **nontrivial** (in a sense) tasks of museum curators is to care of collections, to keep them as growing live “organisms”, **regardless** of any actual and possible research fashions and bureaucratic tricks.



Спасибо за внимание

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