



Julia Carr-Trebelhorn

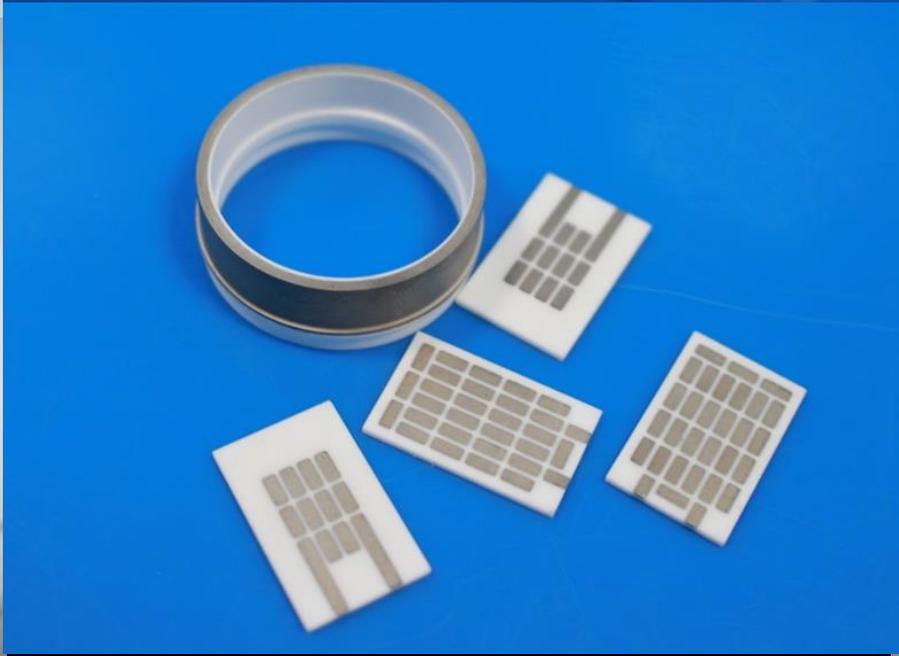
The Missing Etymological Record: The Nineteenth-Century Invention of “Ceramics” & Twentieth-Century Controversy

Julia Carr-Trebelhorn
University of Cincinnati

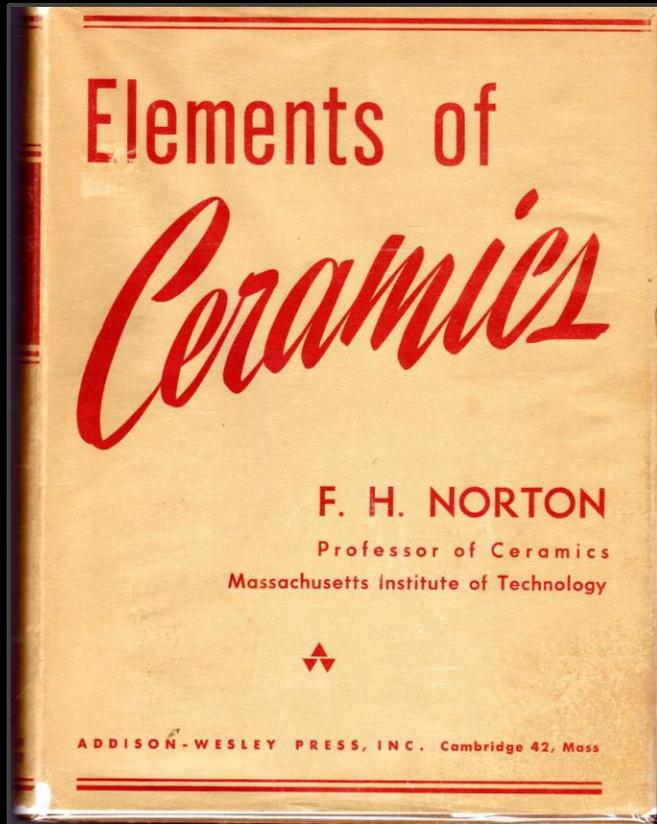
HSS Annual Meeting 2025
13-16 November 2025, New Orleans



CERAMICS • THE CERAMIC ARTS • CERAMIC SCIENCE • CERAMIC ENGINEERING • CERAMIC • KERAMIC



Introduction: The Challenging Simplicity of “Burnt Stuff”



In 1952, the first edition of Frederick Harwood Norton’s book, *Elements of Ceramics*, opened with an explanation:

“ceramics may be defined in a somewhat broader sense than the dictionary definition of “pottery” implies. It seems evident that the word *Keramos* meant “burnt stuff”; thus our modern term, ceramics, which includes whitewares, enamels, refractories, glass, cements, fired building materials, and abrasives, is not incompatible with the original usage.”

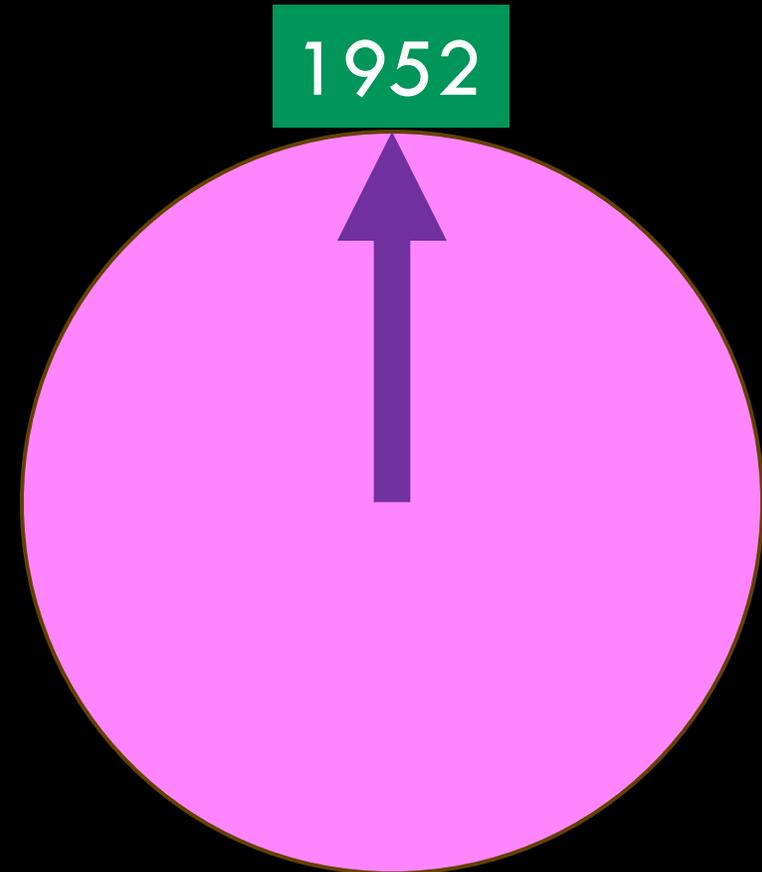
Introduction: The Challenging Simplicity of “Burnt Stuff”

“It seems evident that the word *Keramos* meant 'burnt stuff’ ”

My first question on the subject of the word “ceramics” developed from the unresolvable ambiguity of this opening statement from Norton.

It left me with an endless “huh, what???” Norton didn’t give any evidence or cite any sources for this comment that clearly held meaning for his 1952 audience.

Moreover, “burnt stuff” showed up in countless twentieth- and twenty-first-century ceramics books and articles, and I heard it frequently in a number of university ceramic studios. It was a permanent part of the lore of twentieth- and early twenty-first century ceramics.



Introduction: The Challenging Simplicity of “Burnt Stuff”

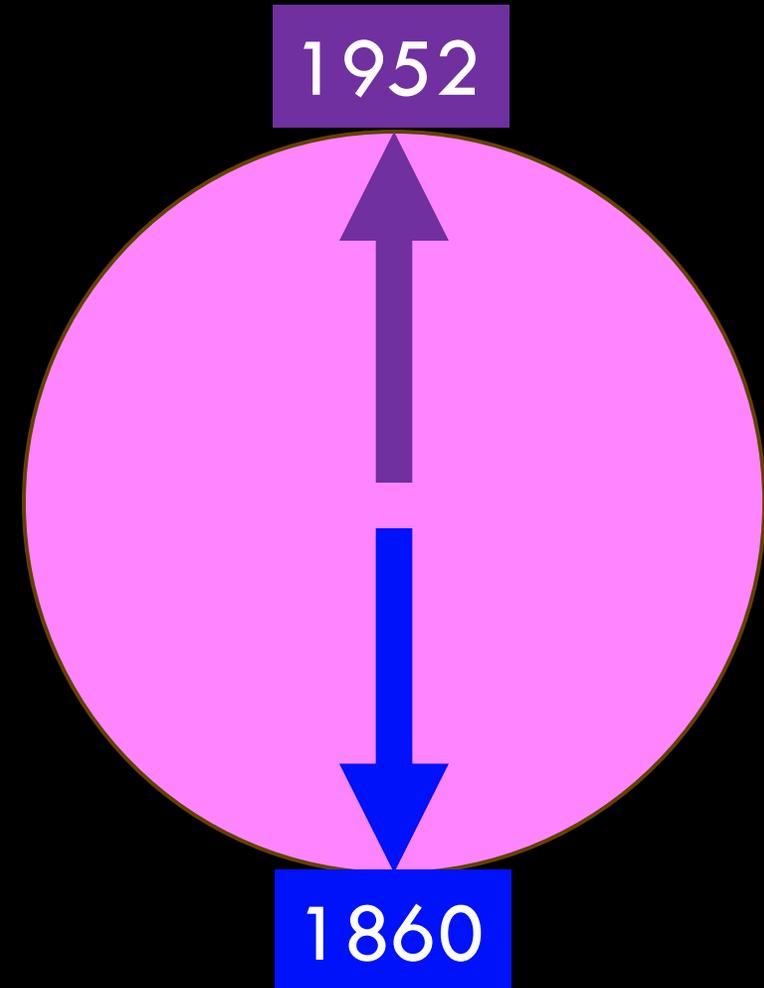
Several years later, I came across another (to me) confusing passage related to the term “ceramic”.

In 1860, Gottfried Semper sought to redefine “ceramics”, which he considered to be a new, technical “foreign” word. He wanted to expand this new word to a meaning which included materials such as wood, metal, and fibers in the (German) category of *Keramik* so long as these materials took on pottery forms.



Introduction: The Challenging Simplicity of “Burnt Stuff”

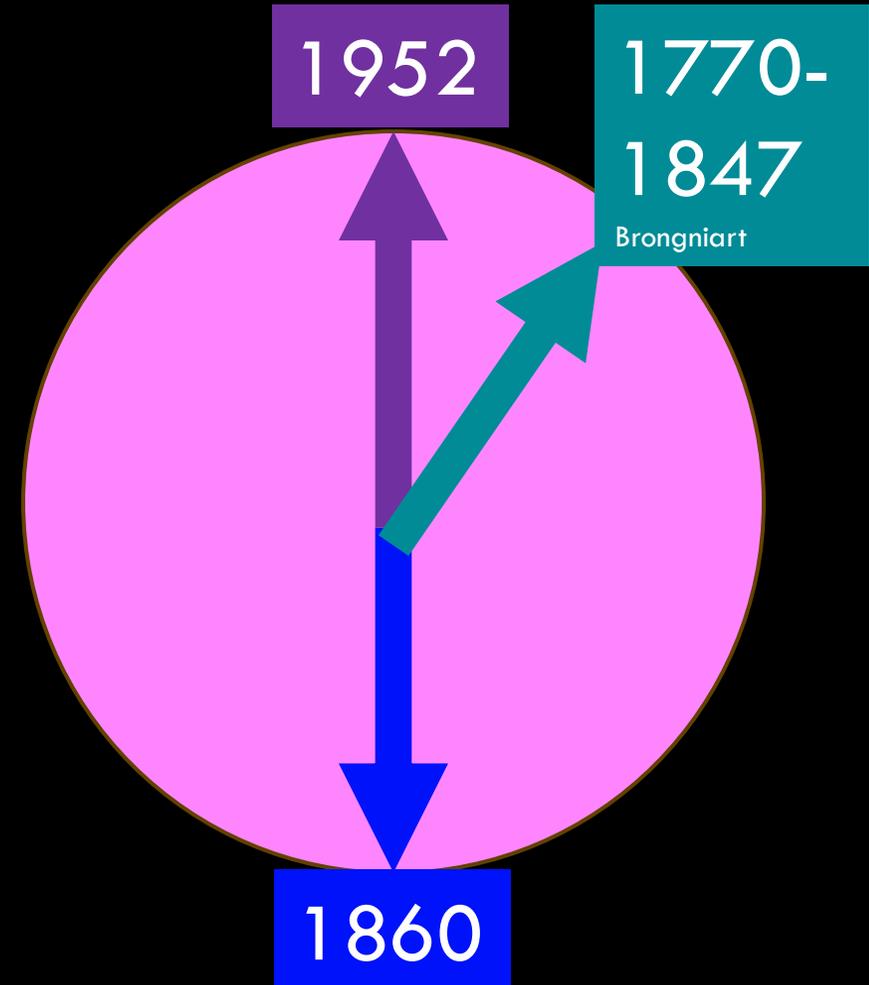
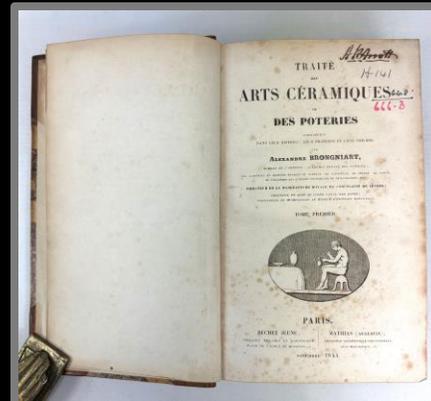
I read Semper on *Keramik* — sometime around 2012 — with twenty-first-century technical understanding, but no clue what Semper meant about “ceramics” as a new, industrial word in 1860. A new search brought me back around to the definition “burnt stuff”.



Introduction: The Challenging Simplicity of “Burnt Stuff”

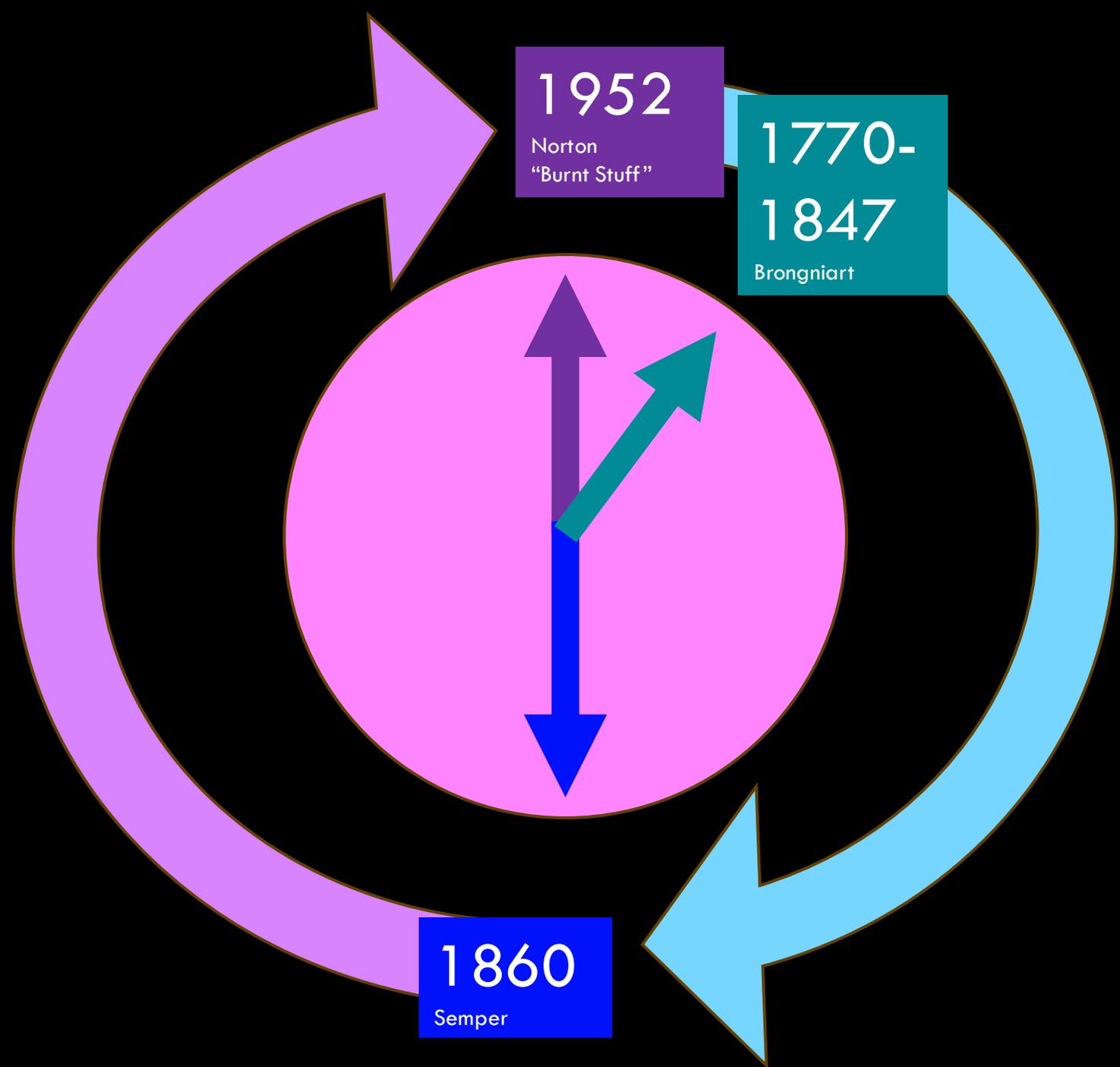
In 2012, I realized:

- Brongniart had been a direct and prominent influence on Semper’s thinking after 1848.
- Brongniart had classified art objects into a history that used material characteristics as a key organizational factor.
- He had created an art history using geological “deep” time as a reference, which was a function of his position as an early geological researcher and key theorist.
- Brongniart’s work represented a monumental shift in thinking that was not immediately picked up by subsequent authors on the history of art or of technology, including Semper.



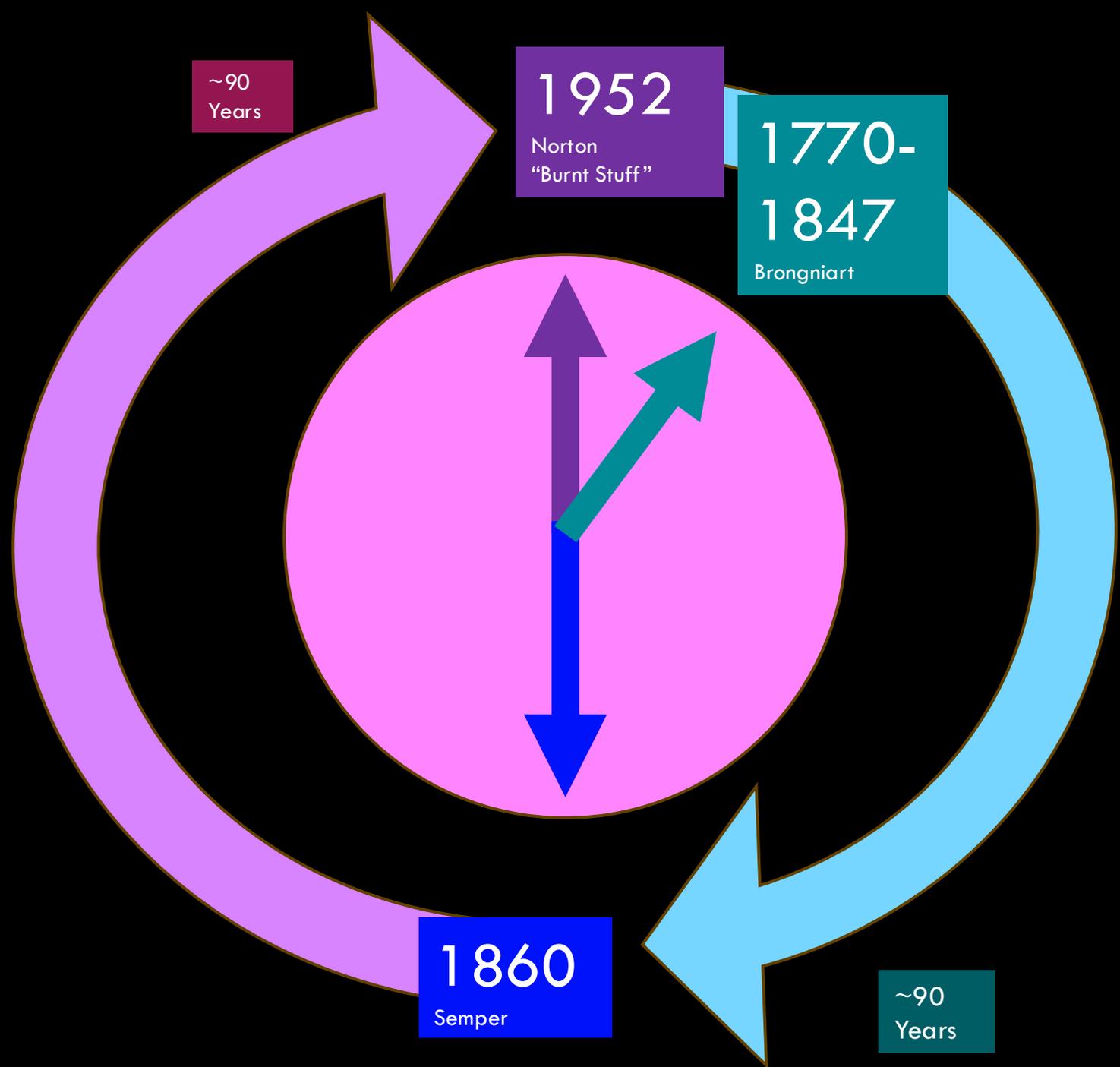
Introduction: The Challenging Simplicity of “Burnt Stuff”

After a series of redundant searches on the meaning of “ceramic”, I simply tabled the problem and figured an answer might come around after I completed my initial project on the life of Alexandre Brongniart.



Introduction: The Challenging Simplicity of “Burnt Stuff”

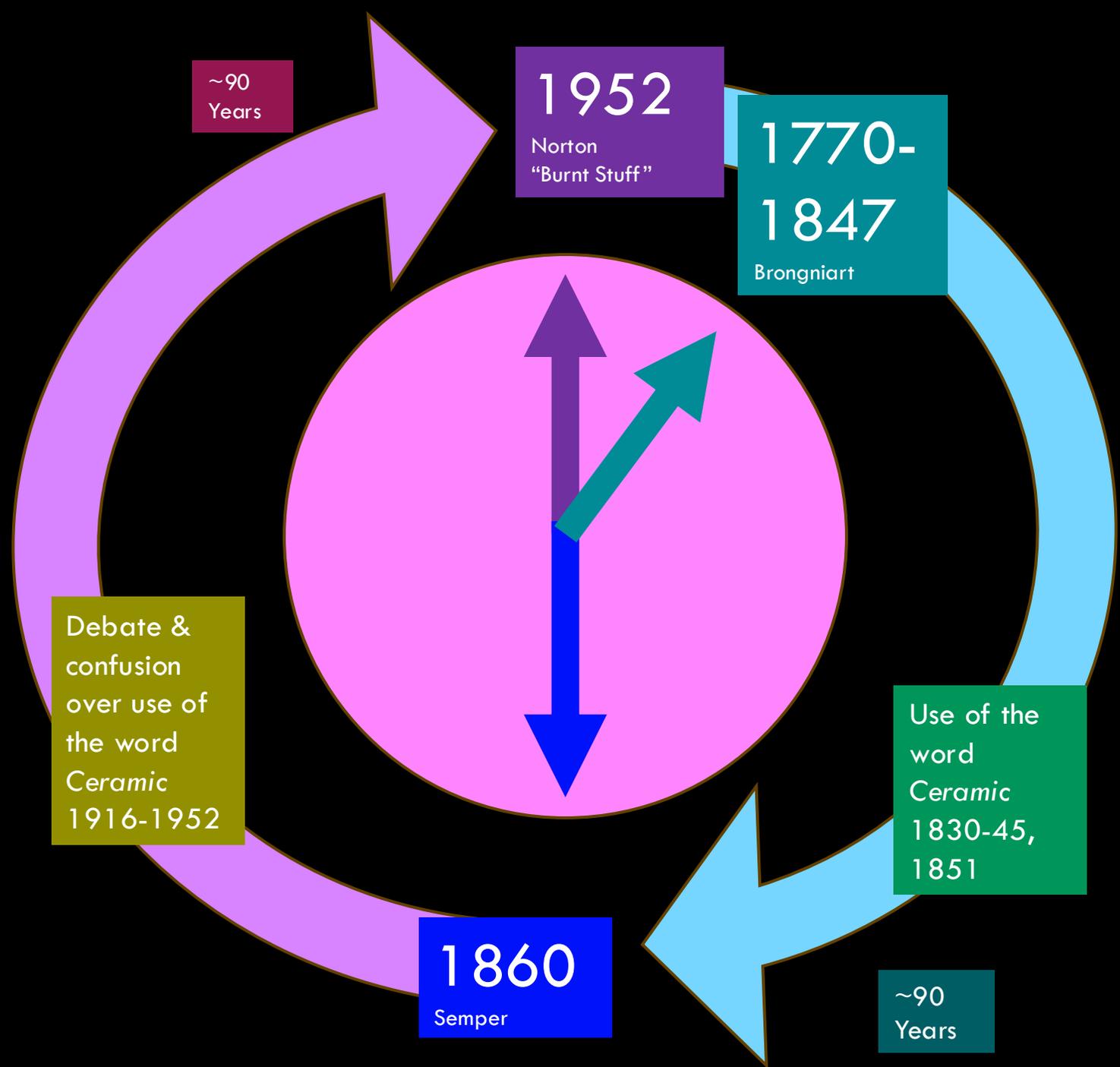
Each half of this talk covers a time period of roughly 90 years. Brongniart’s lifetime is the starting point for the discussion, and the midpoint is marked by the writings of Gottfried Semper in 1860. The second half of the talk traces twentieth-century conflict and ends with an explanation of Norton’s succinct definition “burnt stuff”.



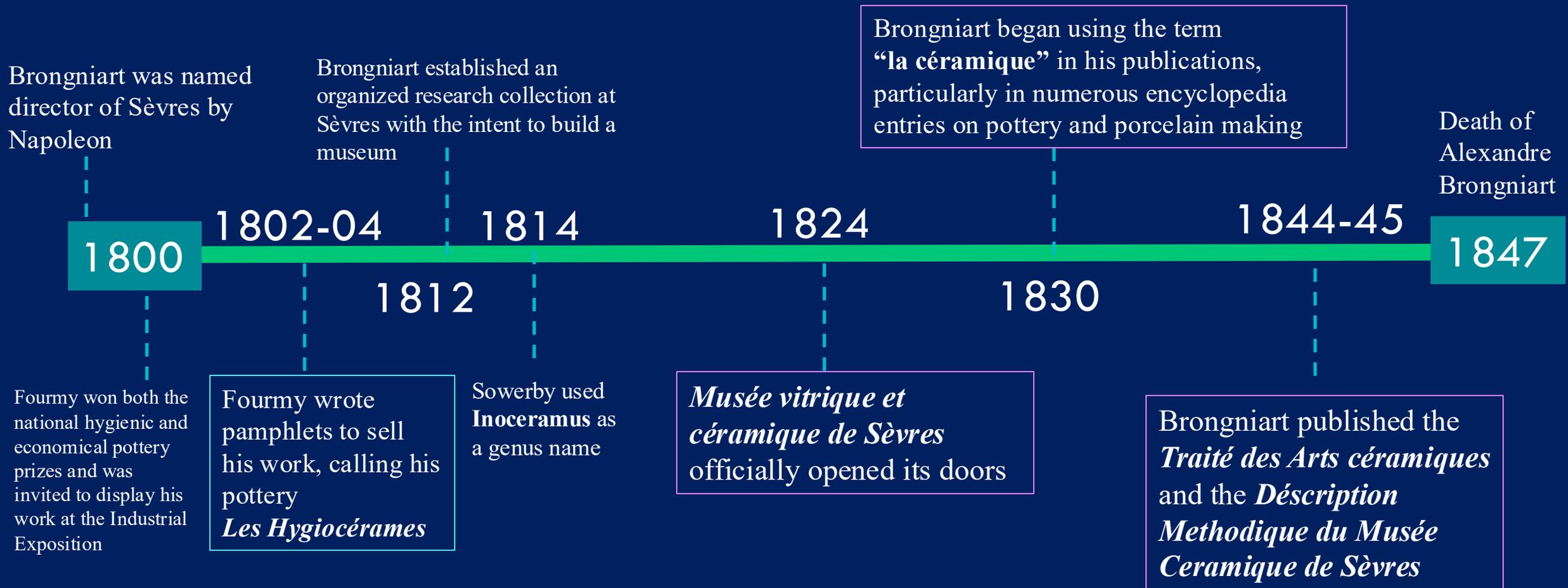
Introduction: The Challenging Simplicity of “Burnt Stuff”

Part One (light blue) discusses the creation of the term “la céramique” and its use through 1860.

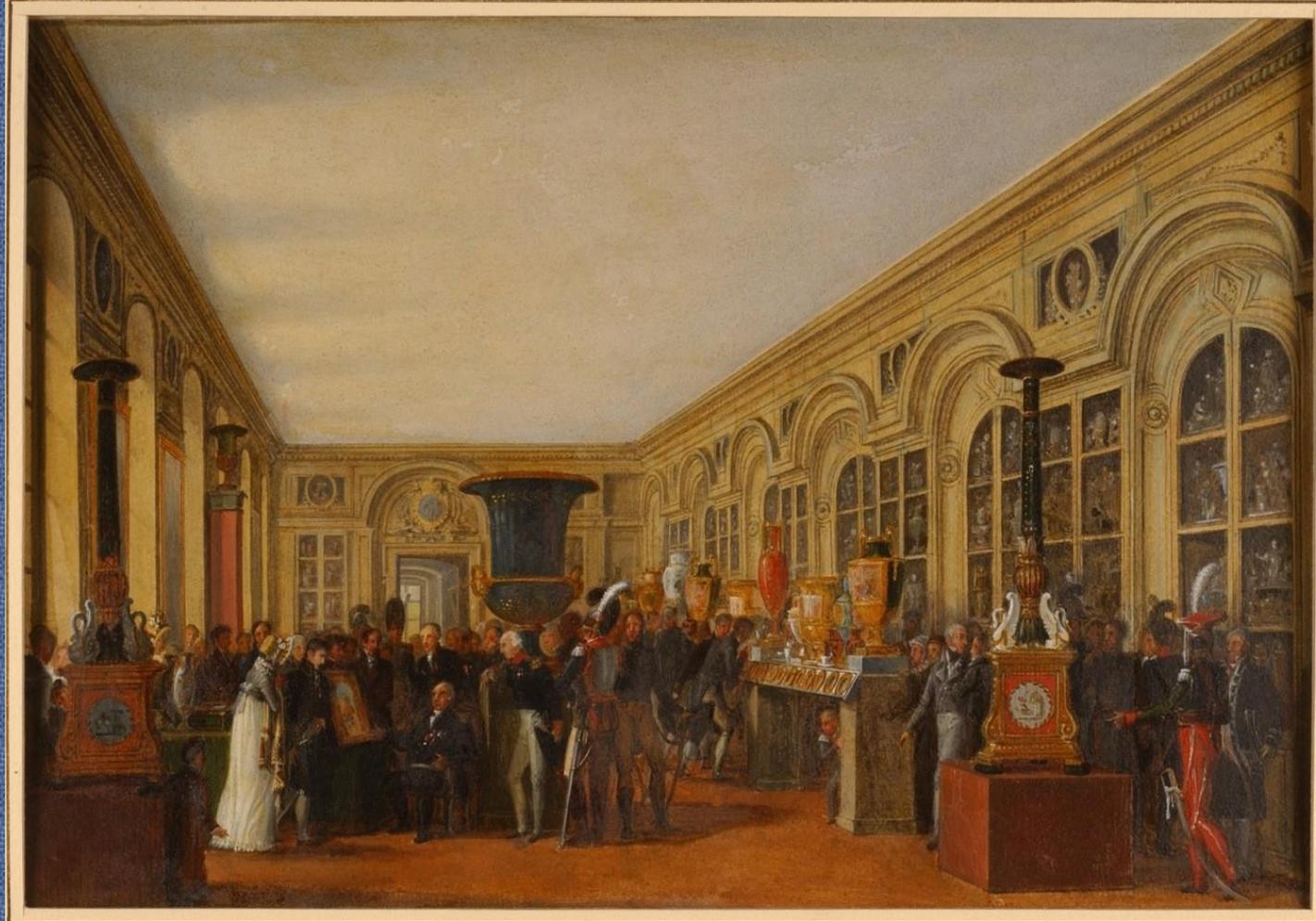
Part Two (light purple) will cover the debate over the use of the term “ceramic” in the Twentieth Century.



Timeline One: Alexandre Brongniart's Directorship at Sèvres & the Introduction of the "La Céramique" into French



Part One: The Invention of *La Céramique*



Jacques Fourmy's Hygienic Pottery

In 1802, Jacques Fourmy described how his associate, the crystallographer René Just Haüy, had suggested the novel term

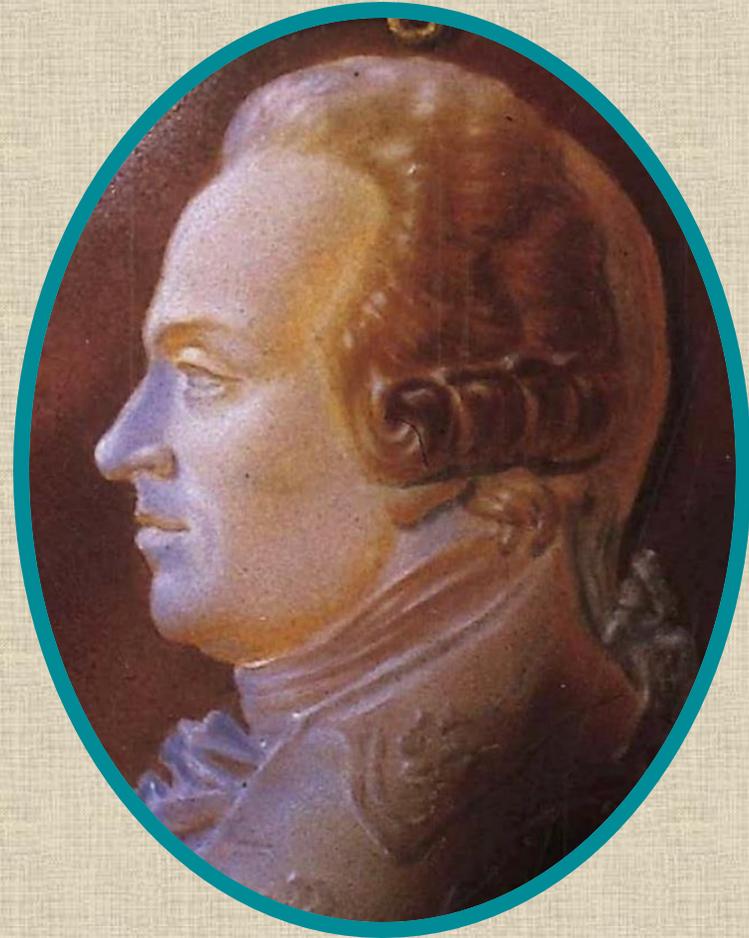
les hygiocérames

This was the first in-print reference to the practice of pottery making utilizing the root word

“-cerame”

1802

Les Hygiocérames



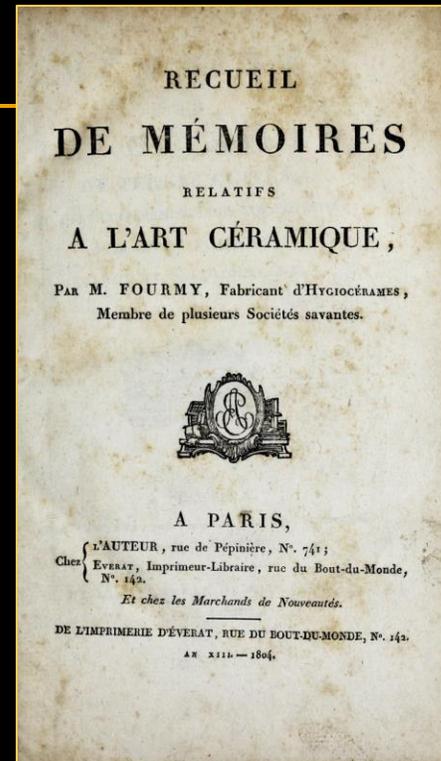
Portrait of Jacques Fourmy, Central Medallion from a Théière, Dejeuner des Potiers célèbres modernes, Sèvres Porcelain Manufactory, 1840

Fourmy soon applied the root word “*ceram-*” more generally

*Recueil de mémoires
relatifs à l'art céramique*

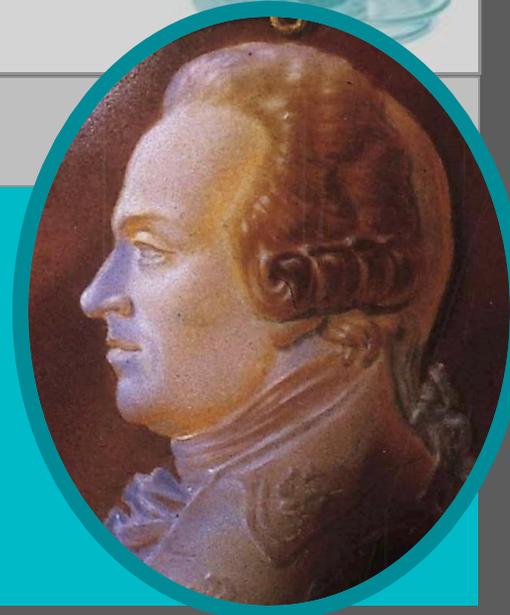
1804

*Collection of
memoirs related to
the ceramic arts*



Dejeuner des Potiers célèbres modernes
Sèvres Porcelain Manufactory, 1840

Jacques Fourmy



Why did Fourmy and Haiüy introduce these words, and why at this moment?

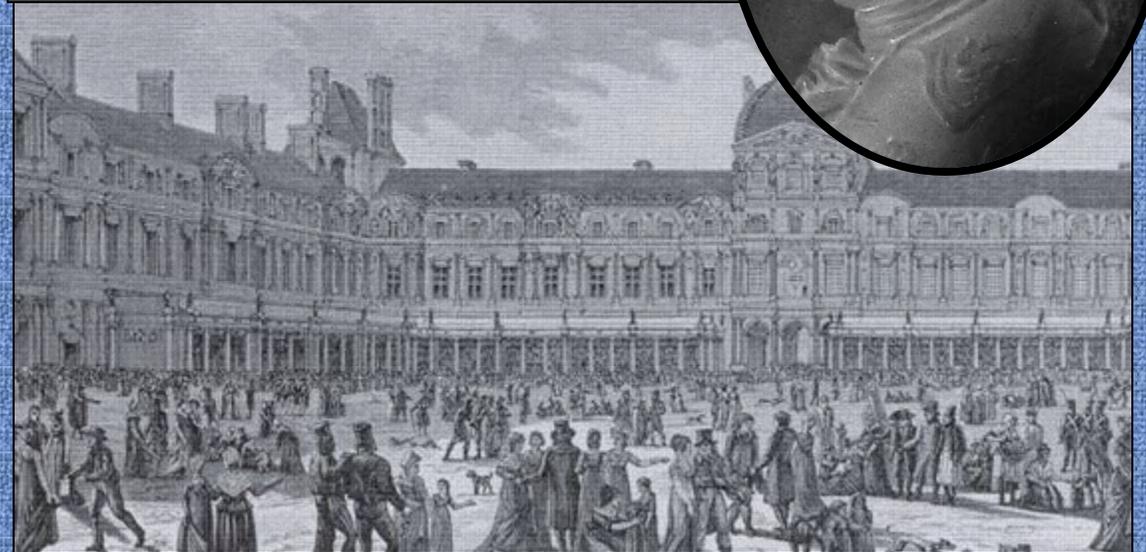


Alexandre Brongniart
(1770-1847)

Director of the
Sèvres Manufactory
from 1800-1847



- Jacques Fourmy •
- 1802 • Les Hygiocérames
- 1804 • L'Art céramique
- 1805 • Les Hydrocérames



• *Les Expositions des produits de l'industrie française* •

1798 – 1st Exhibition

1801 – 2nd Exhibition

1802 – 3rd Exhibition

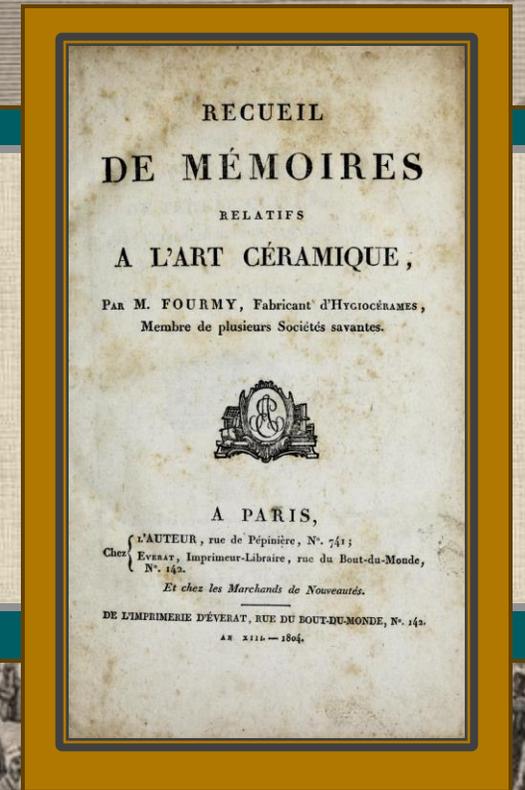
1806 – 4th Exhibition

1800 • Fourmy: “Arts of the Fire”

1802 • Fourmy: *Les Hygiocérames*

1804 • Fourmy: *L'Art céramique*

1805 • Fourmy: *Les Hydrocérames*



Alexandre Brongniart was looking for a way of talking about the “**Art of Pottery and Porcelain Making**” or, alternately the “**Arts of the Earth**”, neither of which came close to describing the industry in which he worked as a leading figure.



Making Ceramic Science – new sciences need new names

How did Haüy, Fourmy, & Brongniart come up with “l’art céramique” in 1802-04?



Κεραμος

Keramos • Ceramus



Keramos was the son of Dionysus and Ariadne

He was the mythological “first potter”



Keramos (testa)
was defined as
“clay” or “burnt
clay”

and



Keramos (testa)
could be defined as
“shell”

Κεραμος

Keramos • Ceramus

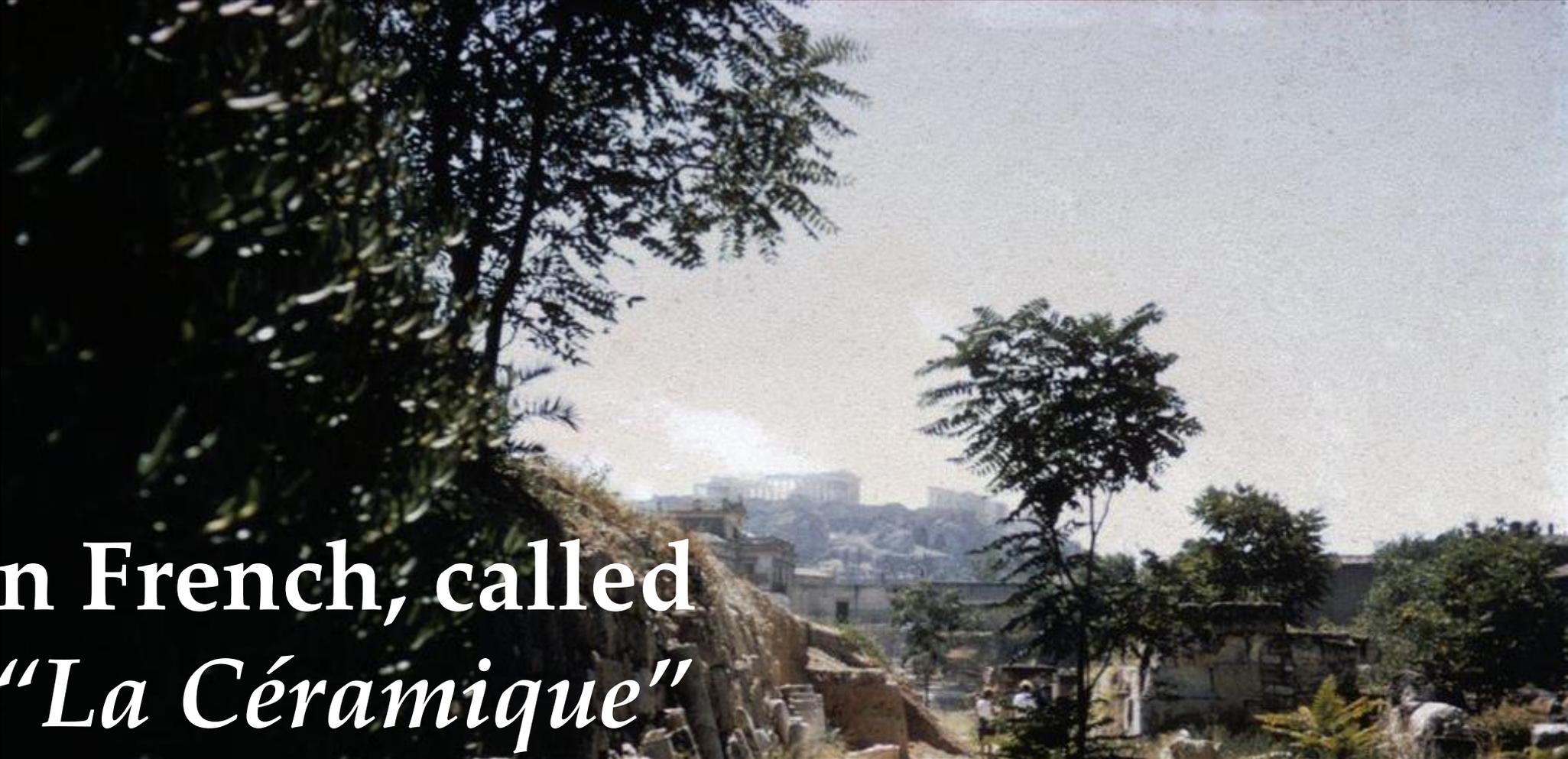
The term also
applied to the
Ceramicus Sinus



Ceramicus Sinus or Ceramic Gulf

Ancient name of the Gulf of Kos/Gulf of Gökova, SW Turkey — on the Aegean Sea

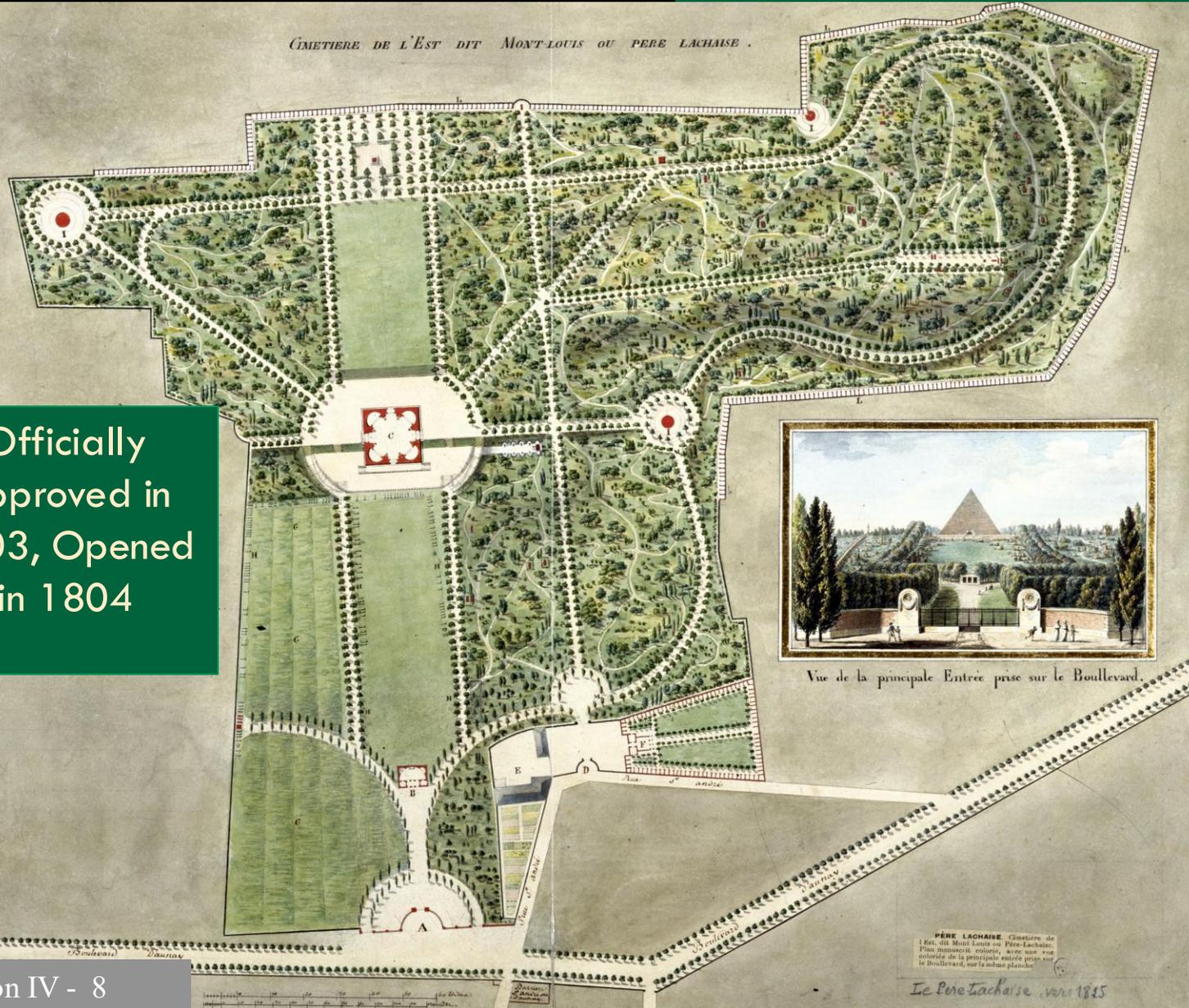
The Ancient Athenian Cemetery of *Kerameikos*



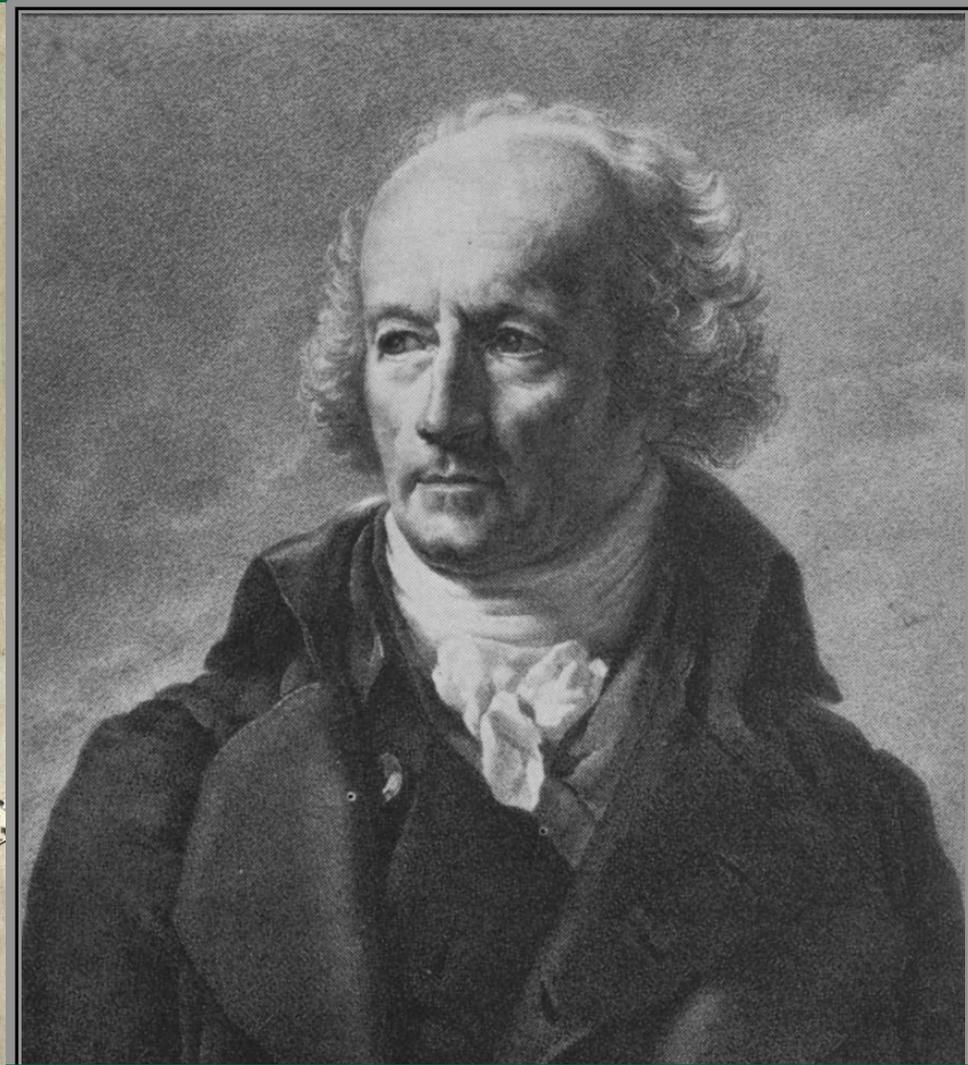
In French, called
“La Céramique”

Père Lachaise

The First Modern Municipal Cemetery

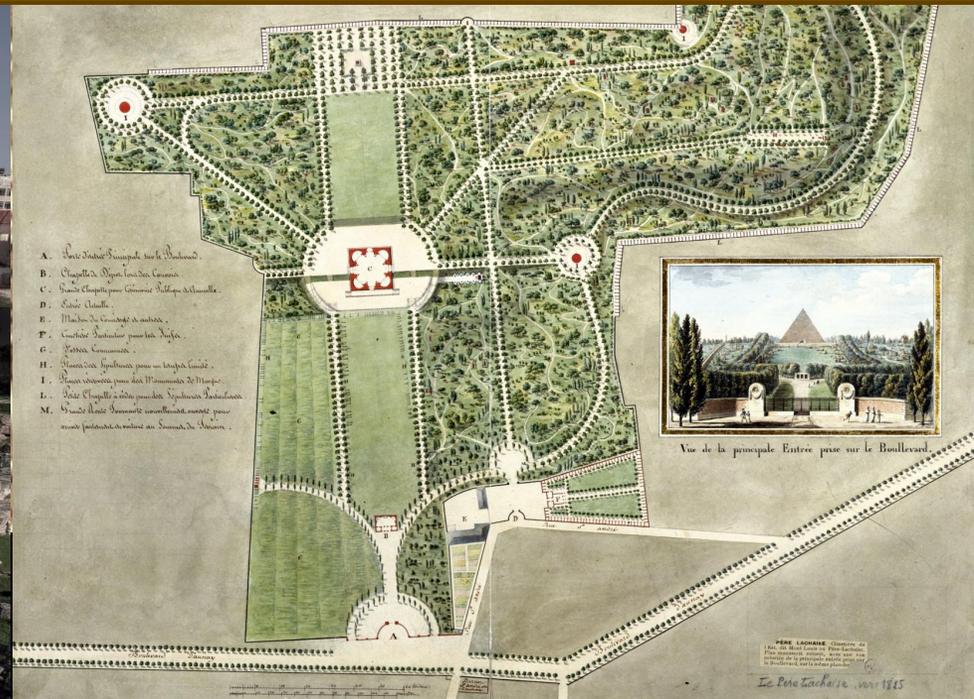


Officially
Approved in
1803, Opened
in 1804



Théodore Brongniart (1739-1813),
Architect and Planner

Théodore Brongniart modelled the new Parisian cemetery after **Kerameikos**, the ancient cemetery of Athens (Latin: *Ceramicus*)



Summary of Eighteenth Century Meanings of Keramos and related terms (before 1802-04)



Keramos “first potter” & son of Dionysus and Ariadne.

His name is the source of the name Kerameikos.



Keramos (testa)
“clay” or “burnt clay”



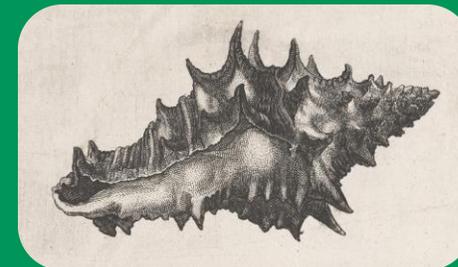
Keramos (testa)
“shell”



Ceramicus Sinus —
the Ceramic Gulf



Kerameikos “La Céramique”



Murex ceramica,
1748



Inoceramus Cuvieri,
1814

κεραμος • Keramos • Kerameikos

Keramos – Son of Ariadne and Dionysus, myth
“first” potter

Keramos – clay
Keramos – shell

Keramei – potter

Greek Mythical
Origins

Limited, Specific
Greek Usage
related to Pottery
and Natural History

Kerameikos/Keramikos/Ceramicus

The Porta Ceramica (aka Porta Dipylon or Porta Piraeus)
led to the Ceramicus (aka Kerameikos
/La Céramique/Les Céramiques)

Ceramicus Sinus

Ceramos (Ancient City)

Geographic
Names (in
Antiquity and
later)

- Ceramicum
- Inoceramus

18th & 19th C Natural
History & Linnean
Nomenclature

**As a field of study,
i.e. a science:**

Regularly after 1830 in
Brongniart’s writing. More
widely after 1845:

La Céramique (French)

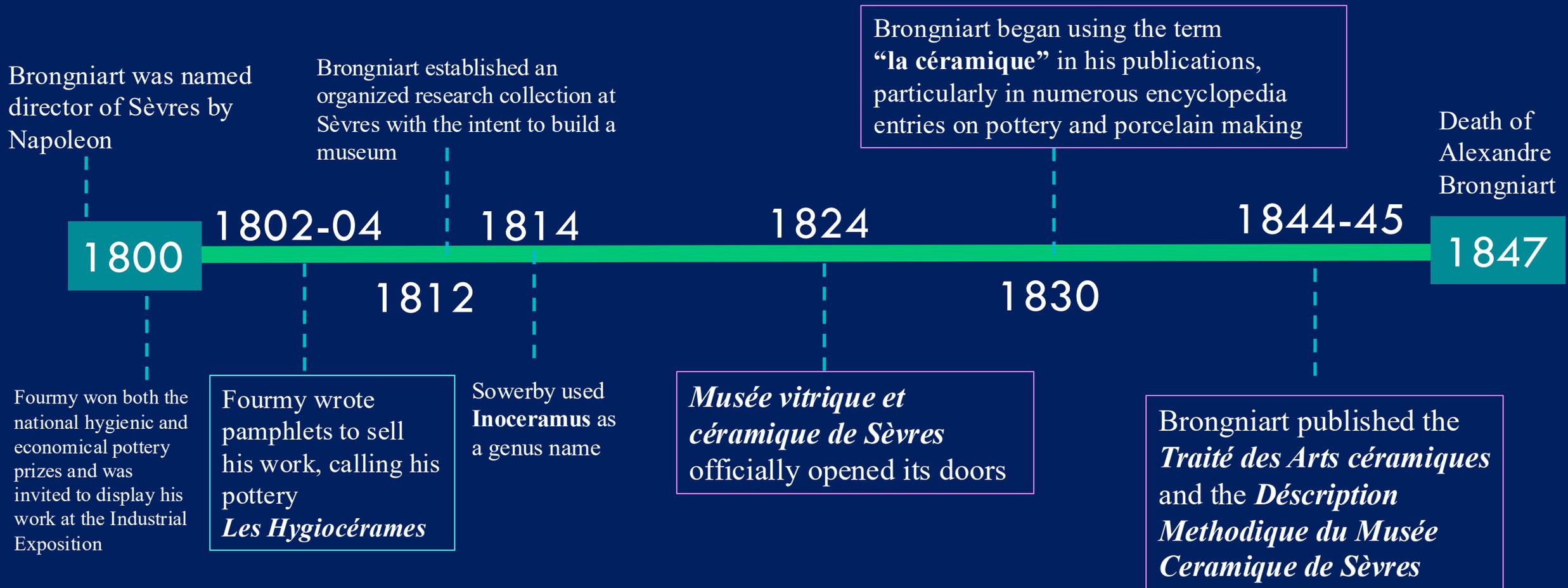
Appeared after 1845:

- Ceramic (English)
- Ceramics (English)
- Keramic (English, UK)
- Keramik (German)
- La Ceramica (Italian)

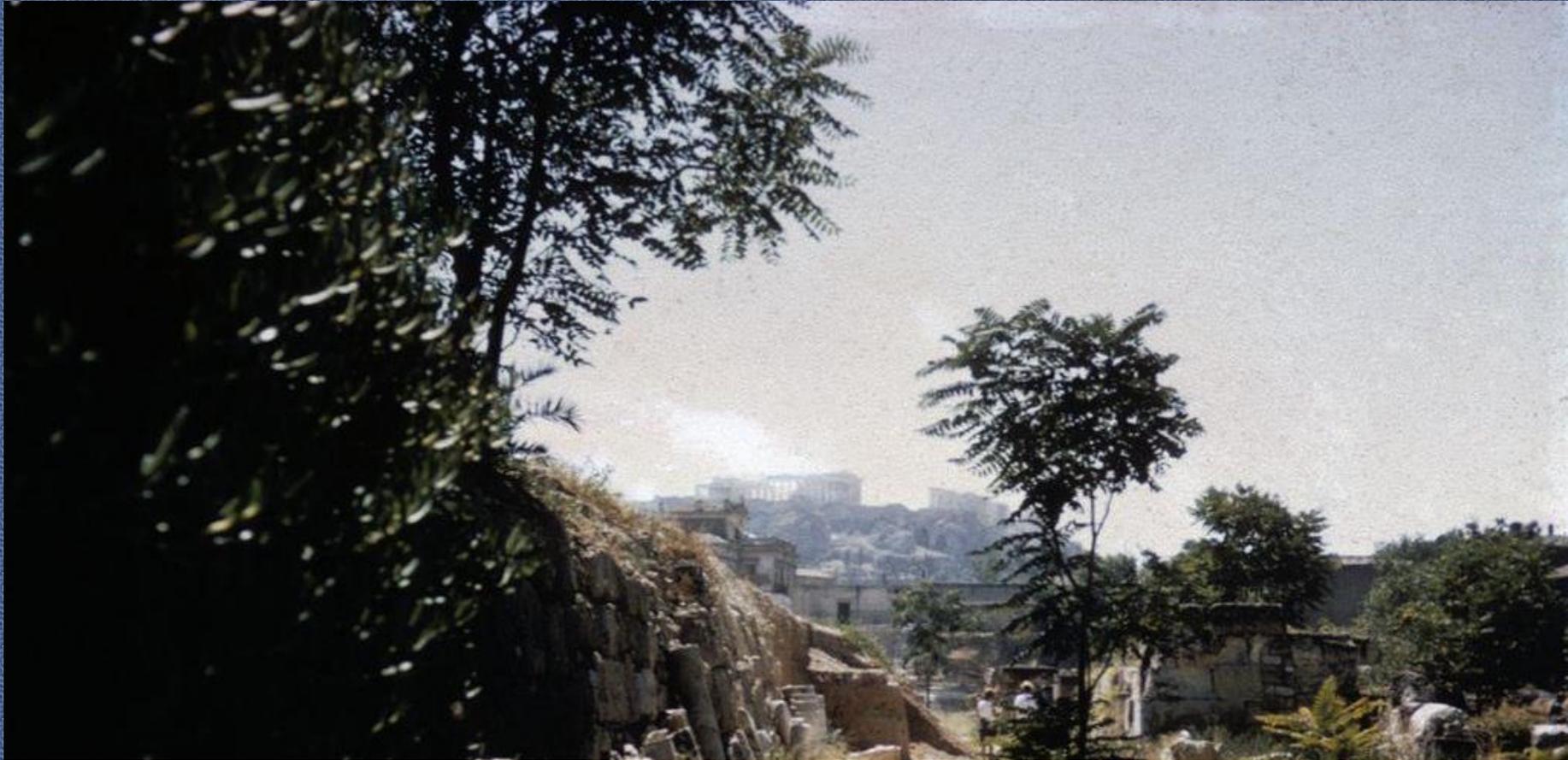
Adopting κεραμος (*keramos*)

Brongniart slowly introduced and thoughtfully utilized the term *la céramique* to cover the wide field of study, industry, production, and science that related to the making of pottery and porcelain and other mineralogically-based products that are transformed by the application of heat and/or fire.

Timeline One: Alexandre Brongniart's Directorship at Sèvres & the Introduction of the "La Céramique" into French



Part Two: Twentieth-Century Controversy
— *La Céramique* in other languages



Outline: The Missing Etymological Record: The Nineteenth-Century Invention of “Ceramics” & Twentieth-Century Controversy

I. Introduction

II. Jacques Fourmy, René Just Haüy, and Alexandre Brongniart – Industrial Fairs and Innovation

III. Origins of the word *Ceramic* and the rich intellectual resources of Brongniart’s networks

IV. Summary of the related meanings of the Greek word “Keramos” (κεραμος)

V. Brongniart’s slow-paced, methodic diffusion of the term “la céramique”

VI. The University of Illinois & the American Ceramic Society – Changes in Industry Structure

VII. American dominance of the scientific language and culture of ceramics

VIII. The inadequacy of twentieth-century etymologies

IX. Conclusion: The irresolute end of a fifty-year controversy

P
A T
R O
N
E

P
A T
R O
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W
O

Between 1845-1900, *La Céramique* was adopted rapidly by both French and British authors

Only a few acknowledged or recognized Brongniart's direct responsibility for the terminology



French: Jules Zeigler (1801-56) *Études Céramiques*, 1850

uuu

English (as “ceramic” & “keramic”): In 1851, the *Official Catalogue of the Great Exhibition* in London named two French exhibitors, No. 1304, Lecoq & Rieder, and No. 1342, Mansard, who exhibited selections of “ceramic” wares.



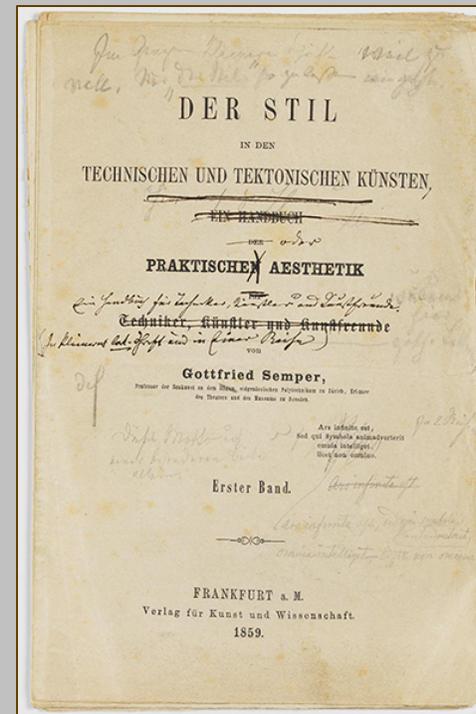
The *Official Descriptive and Illustrated Catalogue* and the *Reports from the Juries* both described in detail the submissions to the official Exhibition category of “Ceramic Manufactures”



On 2 June 1851, Léon Arnoux gave a lecture called “Ceramic Manufactures: Porcelain and Pottery.” Trained at Sèvres, Arnoux was employed as Art Director for the Minton factory.

The 1851 Great Exhibition in London was a key moment in disseminating the term in English and, soon thereafter, in German.

Following a year at Sèvres in 1849, and the proceeding years spent in London at work on the exhibits of the Great Exhibition, the architect Gottfried Semper adopted the term “Ceramic” as his own. He attempted to redefine the term *Keramik* — which he introduced to German print for the first time — to fit his own constructed methodology for the classification of the elements of design.

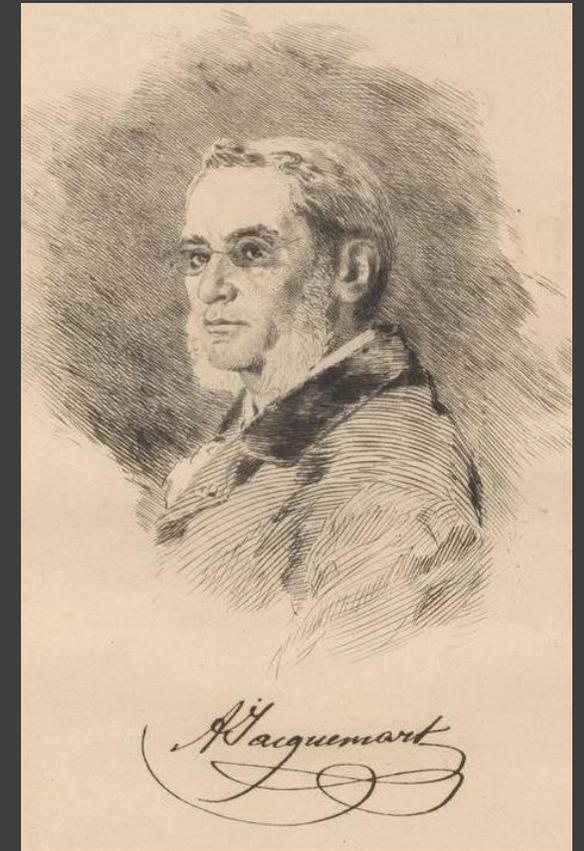


Style in the Technical and Tectonic Arts (1860-63)

In the Nineteenth Century, Albert Jacquemart was immersed enough in the literature to clearly recognize Brongniart's role in creating the term "*la céramique*"

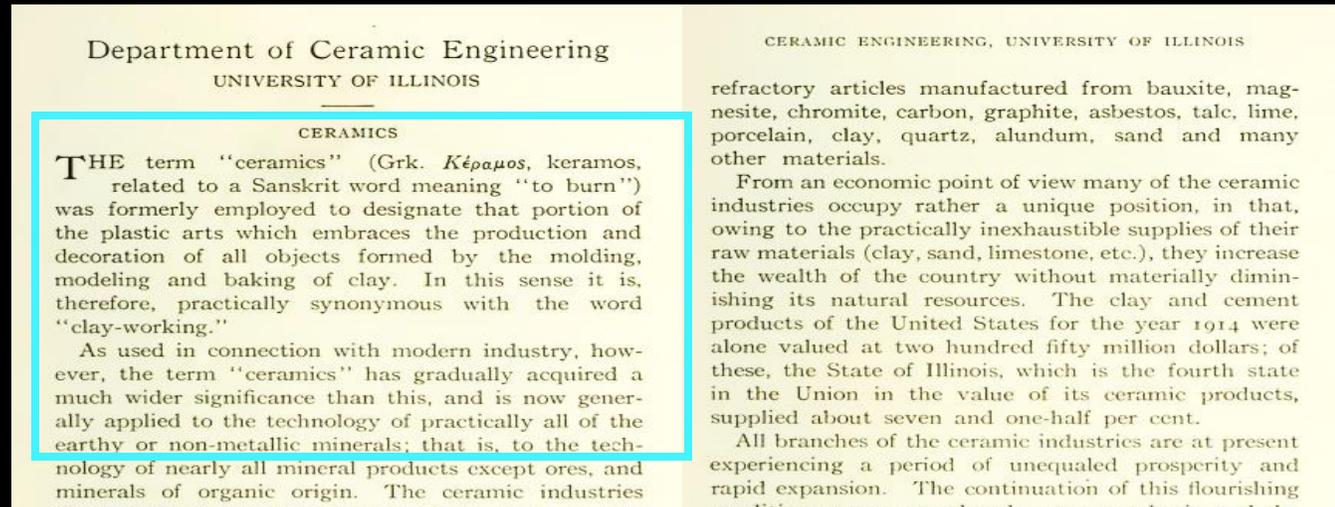
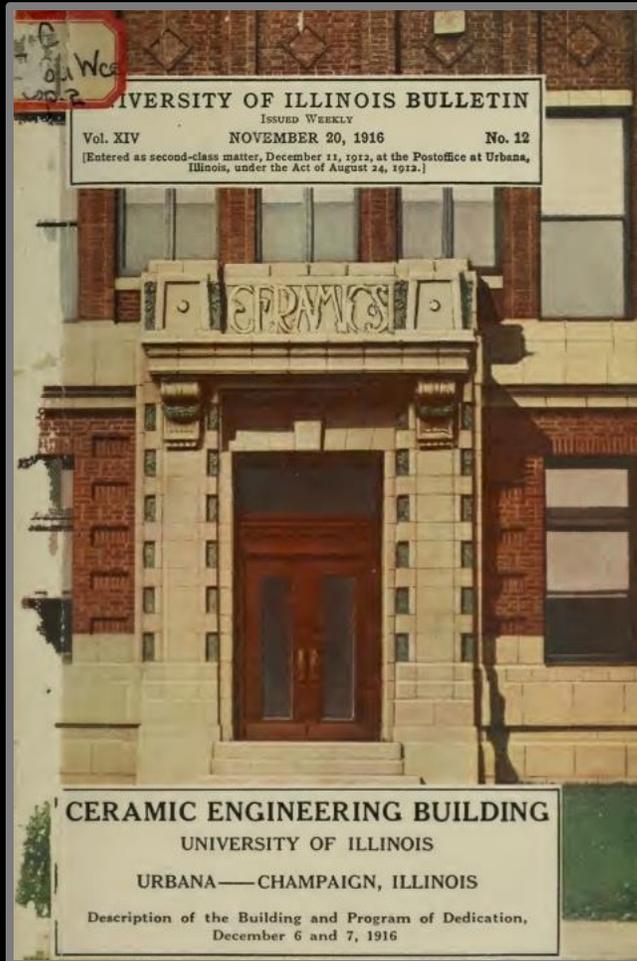


In 1873, Jacquemart wrote in *Histoire de la Céramique* that the language of ceramics “was created with undeniable talent and true authority by Alexandre Brongniart in his beautiful book published for the first time in 1844.” Jacquemart’s book was translated into English in 1877 by Mr. Bury Palliser.

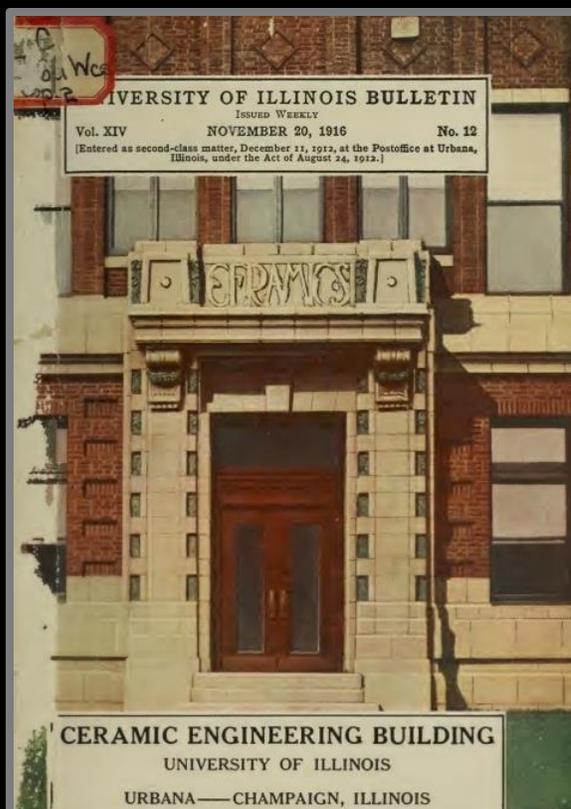


• 40 Years Later •

Chicago,
December 1916



‘The term “ceramics” (Grk. *Κέραμος*, *keramos*, related to a Sanskrit word meaning “to burn”) was formerly employed to designate that portion of the plastic arts which embraces the production and decoration of all objects formed by the moulding, modelling, and baking of clay. In this sense it is, therefore, practically synonymous with the word “clay-working”.’

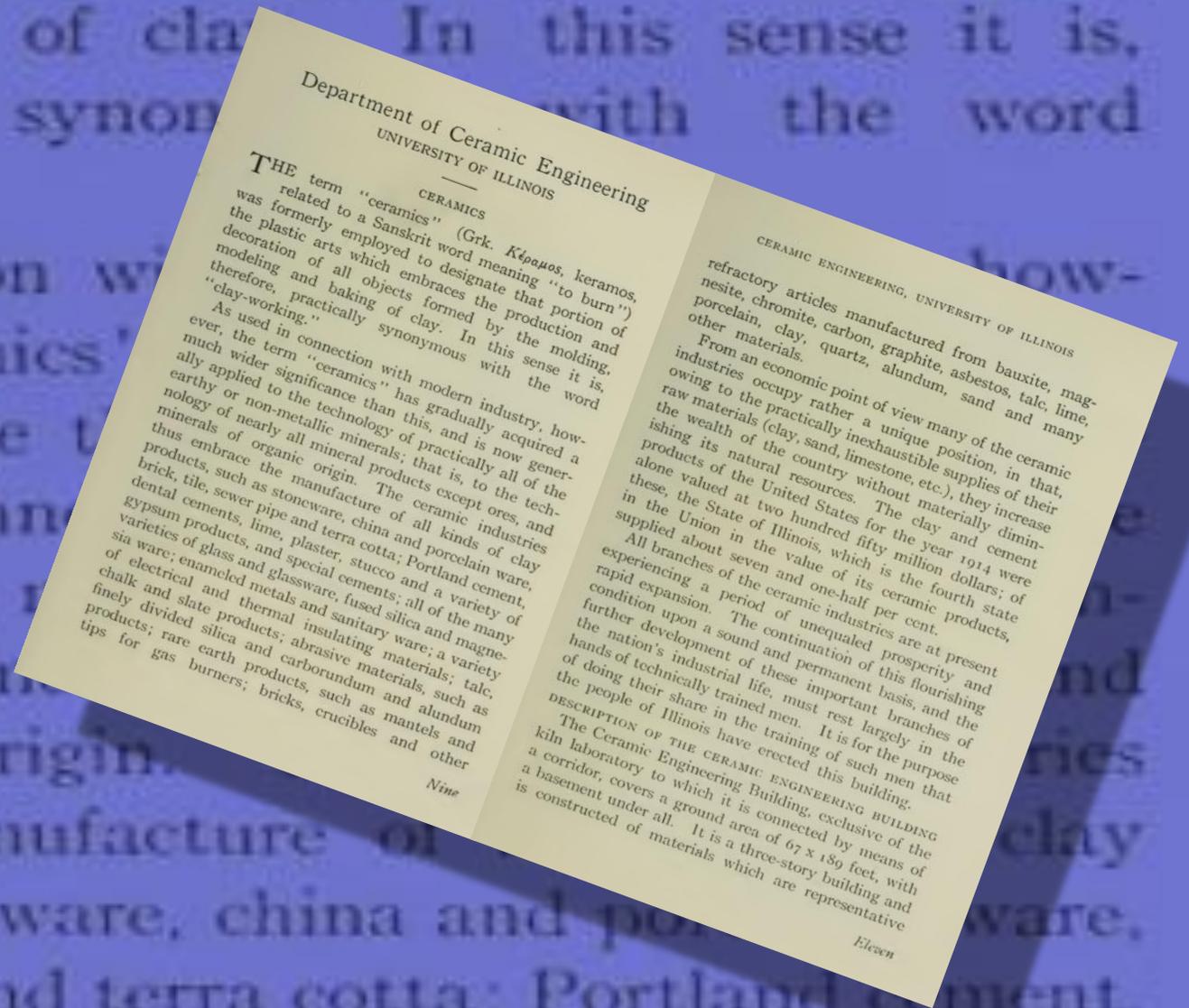


University of Illinois • 1916



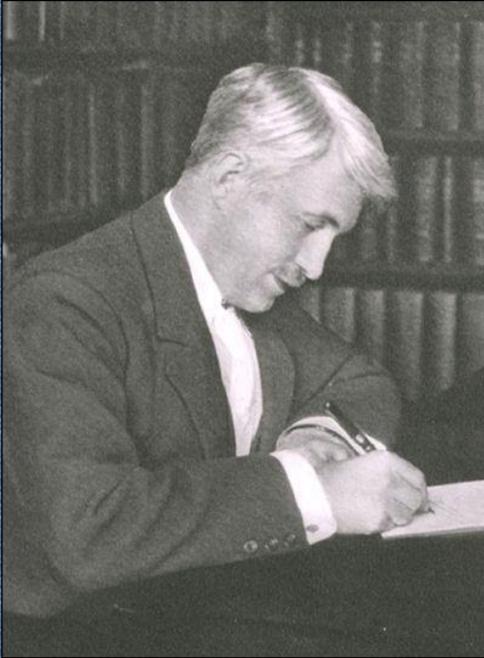
In connection with modern industry . . . the term "ceramics" has gradually acquired a much wider significance . . . and is now generally applied to the technology of practically all of the earthy or non-metallic minerals

The 1916
University of
Illinois definition
was an inclusive
list, and the
definition was
meant to expand
with new
technologies



that is, to the technology of nearly all mineral products except ores, and minerals of organic origin. The ceramic industries thus embrace the manufacture of all kinds of clay products, such as stoneware, china and porcelain ware, brick, tile, sewer pipe and terra cotta; Portland cement, dental cements, lime, plaster, stucco and a variety of gypsum products, and special cements; all of the many varieties of glass and glassware, fused silica and magnesia ware; enamelled metals and sanitary ware; a variety of electrical and thermal insulating materials; talc, chalk and slate products; abrasive materials, such as finely divided silica and carborundum and alundum products; rare earth products, such as mantels and tips for gas burners; bricks, crucibles and other refractory articles manufactured from bauxite, magnesite, chromite, carbon, graphite, asbestos, talc, lime, porcelain, clay, quartz, alundum, sand and many other materials

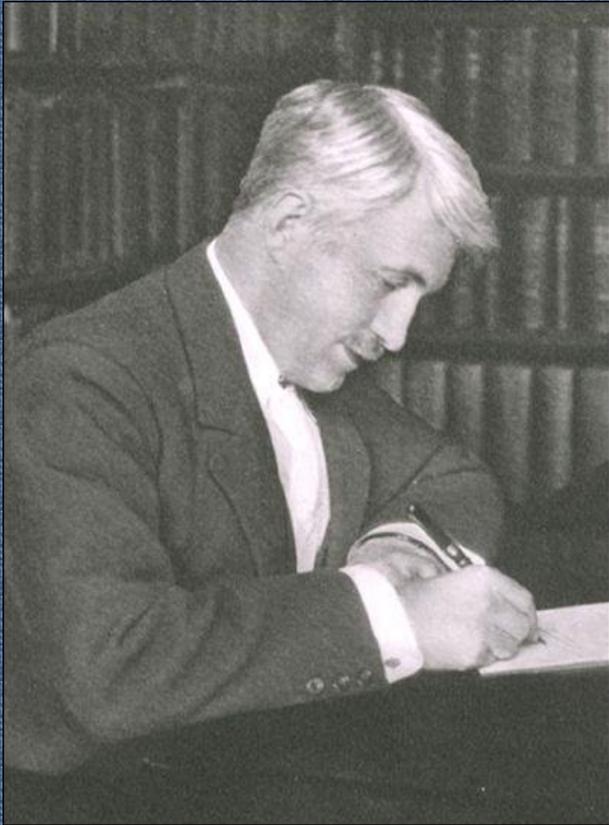
Joseph Mellor, 1917 *Transactions* British Ceramic Society



“I was recently told that the Ceramic Society should deal with pottery, and that it has no concern with bricks and refractory materials.”

“this narrow statement may be contrasted with another extreme recently furnished by the dedicatory bulletin of the Ceramic Engineering Building of the University of Illinois.”

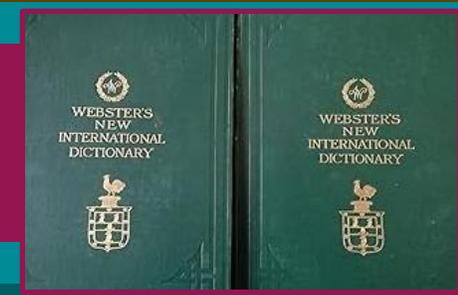
Joseph Mellor, 1917 *Transactions* British Ceramic Society



The 1916 Illinois definition was
“to be regarded as a purely local one,
although it might be convenient to
adopt it later on”

Mellor had a powerful and authoritative voice for British industry and science, where the interests of pottery and porcelain makers were still very strong. In 1927, he became only the second ceramist to be elected to the Royal Society. (After Josiah Wedgwood)

American Ceramic Society, 1920 Committee Report on the Term “Ceramics”



“ (1) The word “Ceramics” first appeared in the English language about the middle of the 19th century apparently through adoption from the French (Fr. *Céramique*).

(!!!)

(2) In accordance with modern literary usage, as known to the lexicographers, the term “ceramics” is employed to designate that portion of the plastic arts which embraces the production and decoration of all objects formed by the molding, modeling and baking of *clay*. According to the lexicographers the term is, therefore, **practically synonymous with *clay working* or the art of the potter**, and there is no indication in any of the **dictionary definitions**, of a broader significance than this. ”

American Ceramic Society, 1920 Committee Report on the Term “Ceramics”

“ This report brings out the following facts:

(I) The Greek word “keramos” from which our term “ceramics” is derived is related to an older Sanskrit root, meaning “to burn,” and as used by the Greeks themselves its primary meaning was simply

‘burnt stuff,’

that is, the fundamental idea contained in the word was that of a product obtained through *the action of fire* usually upon earthy materials ”

American Ceramic Society, 1920
Committee Report on the Term “Ceramics”

“It seems, therefore, clear that in defining the Greek word as signifying *merely* the potter’s clay or the potter’s art, the lexicographers have failed to sense fully the primary meaning of the term as used by the Greek themselves”

American Ceramic Society, 1920
Committee Report on the Term “Ceramics”

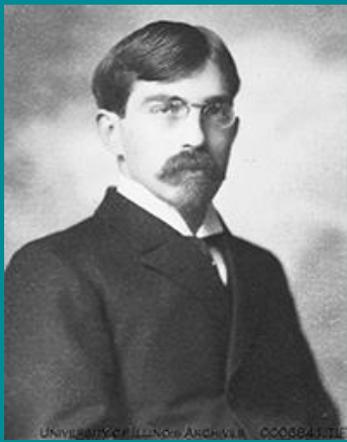
“It seems, therefore, clear that in defining the Greek word as signifying *merely* the potter’s clay or the potter’s art, the lexicographers have failed to sense fully the primary meaning of the term as used by the Greek themselves”

merely the potter’s clay or the potter’s art

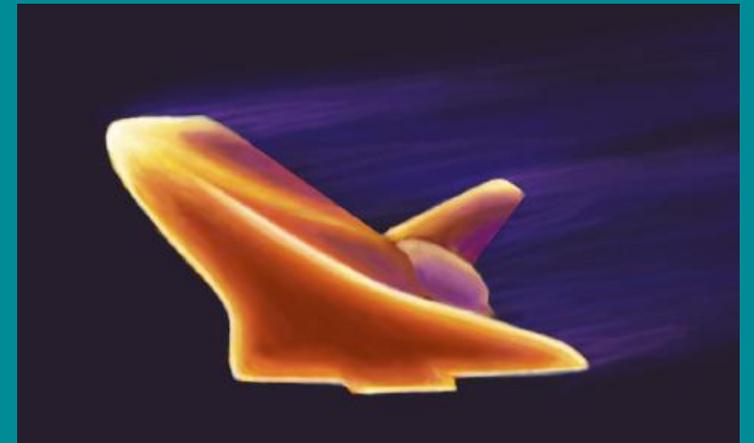
American Ceramic Society, 1920

William Oldfather and the Meaning of “Ceramic”

“ since *Keramos* meant properly ‘burnt stuff,’ and the Greeks did not restrict it and related words to clay products, it might, therefore, not inappropriately be applied to related products in whose manufacture a change of physical and chemical properties under the influence of high temperatures is required. ”



Oldfather was a Classicist at the University of Illinois and the primary author consulted by the American Ceramic Society during the 1920s on the etymology of “ceramics”



American Ceramic Society, 1920

William Oldfather and the Meaning of “Ceramic”



Oldfather wrote that the lack of information between Antiquity and the Nineteenth Century was:

“due to the very fragmentary nature of our literary sources (practically all the technological literature has been lost), and to the circumstances that in these sources we find no instance in which the Greeks had occasion to use a comprehensive term to include both the original and the derived industries, as we do frequently under modern industrial conditions.”



American Ceramic Society, 1920
William Oldfather and the Meaning of “Ceramic”

“it would appear almost pedantic to object to the extension of the word “ceramic” to cover a group of industries derived from or essentially allied to the manufacture of clay products,

particularly if the technical world has already begun to employ the term extensively in this way.”

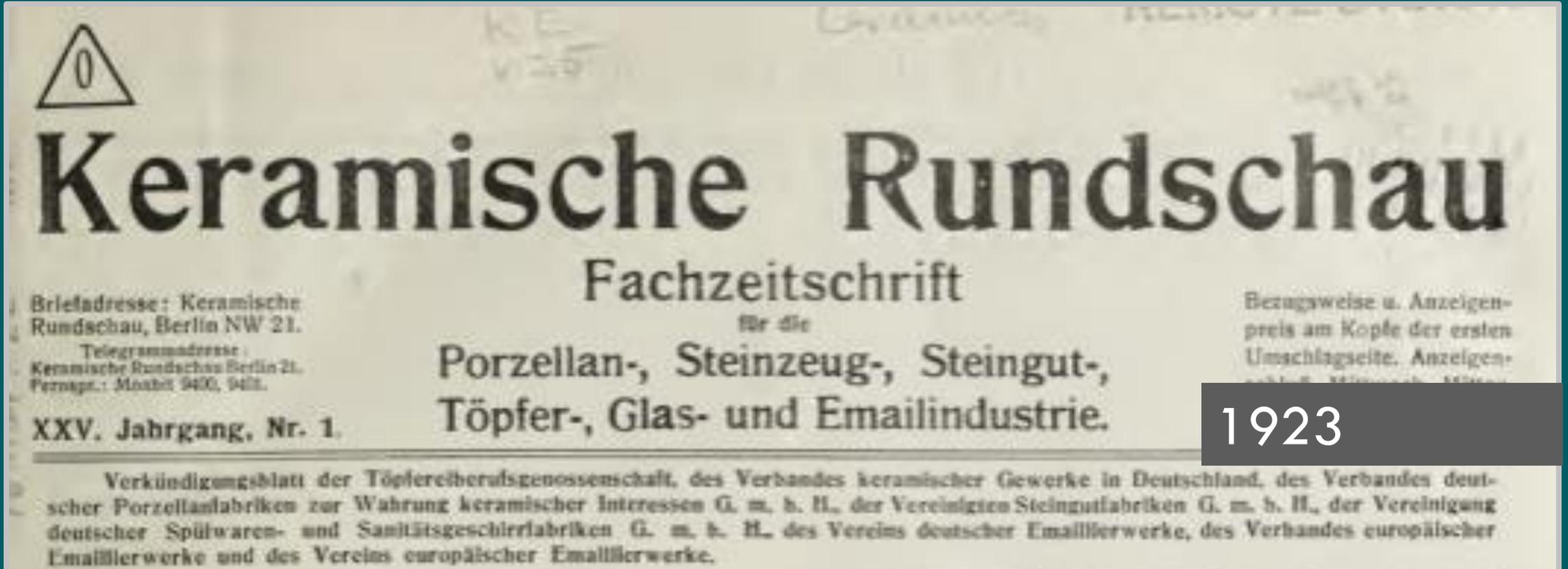
The committee suggested,
in the interest of speakers of other languages . . .

“it should be pointed out that substantially the same term is used in the French (*céramique*), in the Spanish and Italian (*ceramica*), in the Scandinavian, Dutch and to a less degree in the German (*Keramik*) languages also, and that our fellow workers in some of these countries may be interested in considering the same question with reference to the usage of the term in their languages .

“ . . . with the exception of Germany ”

. . . “This may, however, not be true in the case of Germany, owing to the very extensive and successful propaganda in that country directed toward the abandonment of words of foreign origin. It is, therefore, suggested that copies of the report be sent also to any ceramic societies which may exist in the above-named countries, with the exception of Germany.”

The German Response came in the form of a three-part essay on the word "Keramik" by the ceramist Hermann Hecht (1860-1933) in 1923



1923

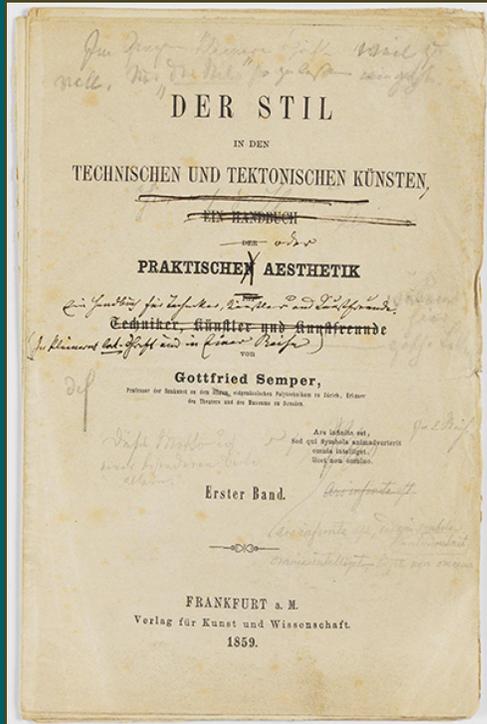
Keramische Rundschau “Was versteht man unter Keramik?”
(Ceramic Review, “What is meant by ceramics?”)

Hermann Hecht, “Was versteht man unter Keramik?, I”, *Keramische Rundschau* 1 (Berlin, 4 January 1923), 1-2; “Was versteht man unter Keramik?, II”, *Keramische Rundschau* 2 (Berlin, 11 Jan 1923), 11-12; “Was versteht man unter Keramik?, III”, *Keramische Rundschau* 3 (Berlin, 18 Jan 1923), 21-2.

Hecht criticized Semper's 1860 appropriation of "la céramique"

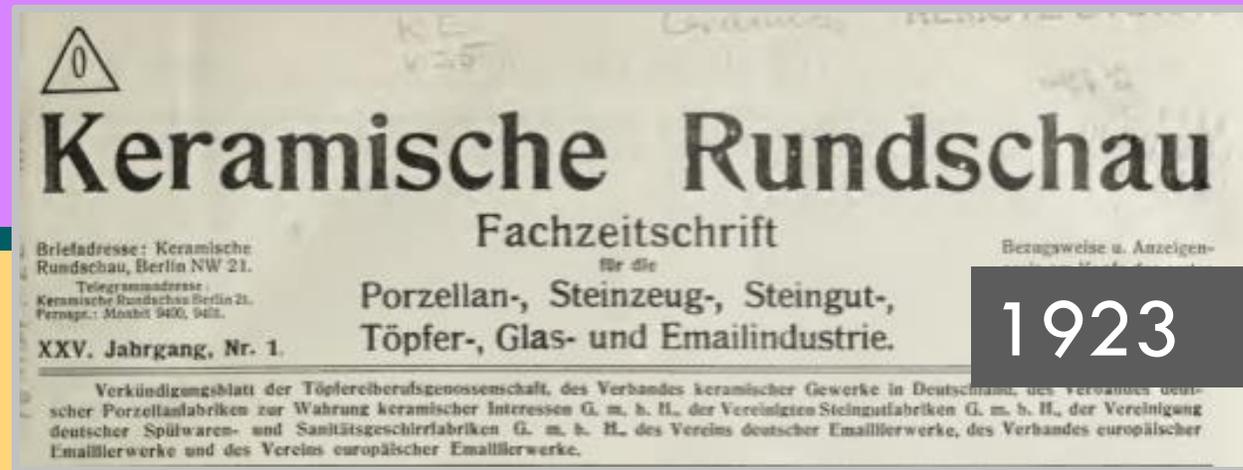
Hecht traced the German term "*Keramik*" to Semper's *Style*, stating:

"he probably took it from Brongniart's work (*Arts céramiques*) and he expressly apologizes for this. '*Keramik*' has the aftertaste of a foreign word. Even worse, an unnaturalized and affected foreign word."



1923

Keramische Rundschau (Ceramic Review)



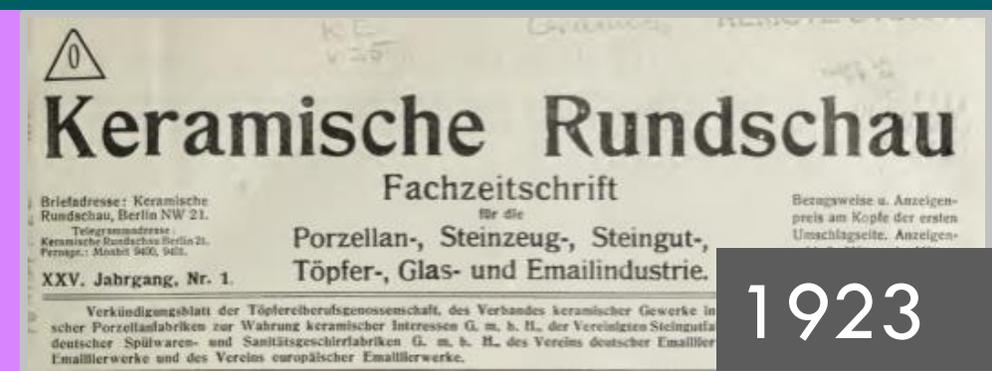
Hecht continued:

“while (Semper’s) extension to vessels made of metal, wood, ivory, glass and stone has not been successful, its meaning in the German language has expanded to the extent that the word has also been extended to include those pottery products that are less likely to be treated artistically, such as bricks and fireproof stones,

a proof that language use does not follow the one-sided efforts of the language artists but is subject to natural development.

Keramos was the name of the ancient Greeks for clay and the products made from it, and this idea has also prevailed with us, since we understand ceramics to mean all products made of clay, from the ordinary brick to the finest porcelain.”

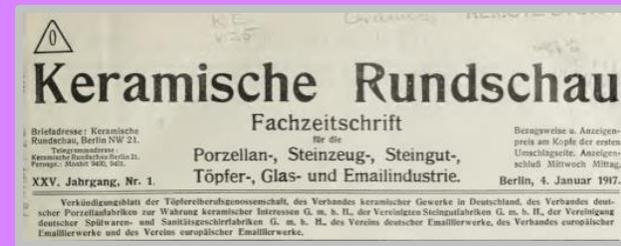
Keramische Rundschau (Ceramic Review)



Based on his stance that *keramos* first referred only to clay, Hecht disagreed with the expansive definition of *keramos* and *Keramik* as resolved upon by Oldfather & the American Ceramic Society Committee:

“(Oldfather) does not deny that *Keramos* means clay, but he says it originally referred to the product and only later to the raw material of pottery. So we go around in circles!”

Keramische Rundschau (Ceramic Review)



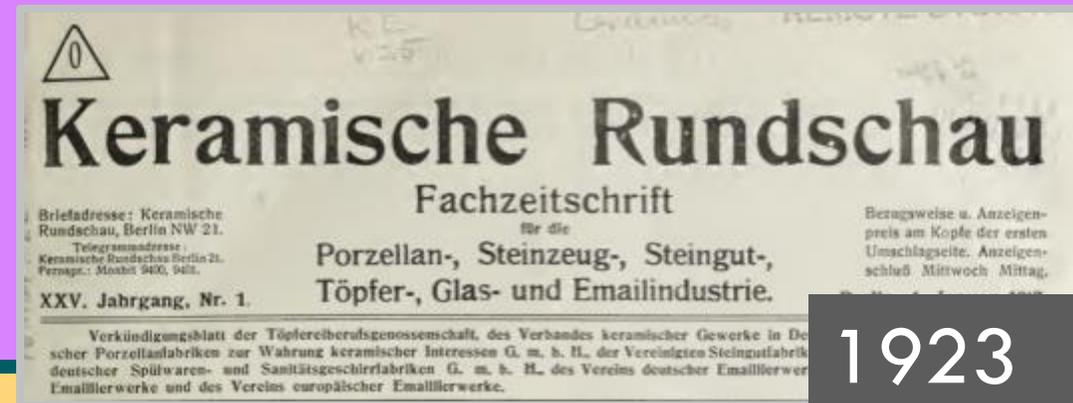
1923

“Germany should be excluded on the grounds that Germany fights very hard and successfully against the use of foreign words! Oh well! Germany, which is still feared because of its intellectual weapons, must be excluded under all circumstances . . .

If one wants to change the meaning of the word ceramics and in the future also understand it to include cement, lime, plaster, enamel work and many other things, then it is not just a matter of occasional theorizing, but of its effect in the explanation of the customs declaration . . .

It comes down to changing the structure of the technology and the customs declaration based on it, and all peoples who engage in world trade should be allowed to have a say in this.”

Keramische Rundschau (Ceramic Review)



Hecht concluded:

“I do not believe that the American proposal should be followed, any more than Semper's proposal has become common usage, but that ceramic products should be understood only as those which are formed from clay or clay-containing masses and, after being formed, are fired either with or without glaze.”

Oldfather now insisted that *keramos* was not, and never had been, limited to the material clay itself, but related to the objects, especially those treated with heat, or alternately, as he wrote,

“precisely what its etymology requires,
‘the burnt stuff’ ”

Timeline Two: The Word *Ceramic*: Twentieth Century Controversy and Incomplete Etymologies

1851

Great Exhibition, London with Sections on the *Ceramic Arts*

1859-1863

Gottfried Semper published *Style* and introduced the term “*Keramik*” to German

1873-1877

Jacquemart, *History of Ceramics*, confirmed Brongniart as the inventor of the language of ceramics 1873 (1877)

1916

University of Illinois Ceramic Engineering Building Dedication

1917

Mellor, *Transactions* of the British Ceramic Society
Response to the Illinois definition

WWI (1914-1918, US entered in 1917)

1914-18

1920

American Ceramic Society organized a committee to establish the correct usage, for everyone except Germany. William Oldfather, a Classicist, responded with an answer that included “burnt stuff”

1923

German ceramist Hecht traced “*Keramik*” to Semper, and ultimately Brongniart, but the reference gained little traction among English-language authors (1923)

1924, Oldfather’s Second Article defended the position of his first article against Hecht’s criticisms. He again did not acknowledge Brongniart.

WWII (1939-1945, US entered in December 1941)

1939-45

1948

The Word “*Ceramic*” Presented by Russell and Watts, American Ceramic Society Annual Meeting, Chicago, 1948

1951

American Ceramic Society Bulletin, “Scope and Size of the Ceramic Industry” 1951. Established the acceptance of the 1920 definition.

1952

Norton published the first edition of *Elements of Ceramics*, defining ceramics as “burnt stuff”

Ceramics in the Post-War Era — 1948-52

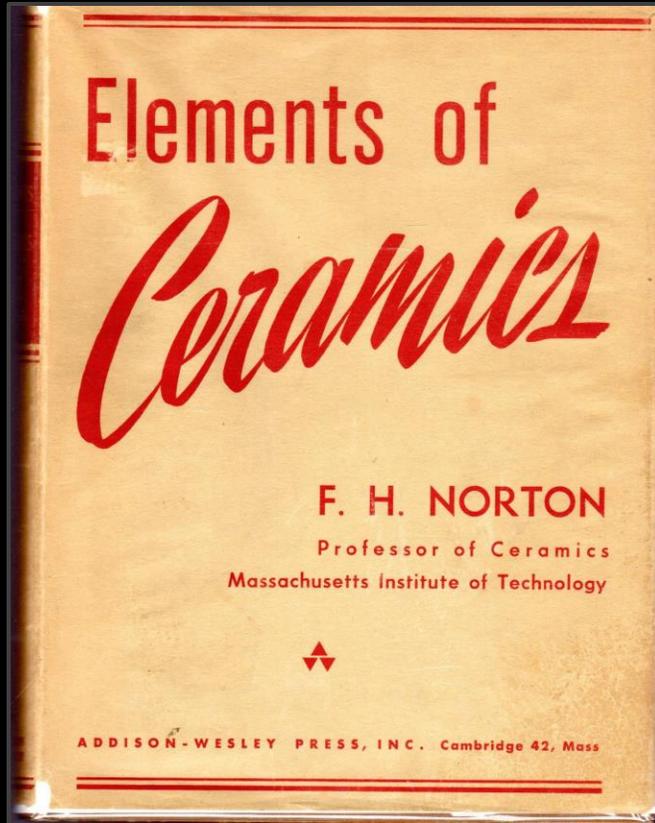
Post-war Science and an End to the Controversy in Ceramic Nomenclature

William Oldfather died in 1945. In 1948, Ralston Russell, Jr. and Arthur S. Watts presented a talk at the American Ceramic Society's annual meeting in Chicago, IL. Their paper suggested a minor adjustment to the existing lexicon to include the singular noun form of the word "ceramics".

In 1951, the Research Committee of the Society omitted the phrase "burnt stuff" but otherwise restated the working definition of "ceramics" published initially in 1920, considering it consistent with American industrial usage.

They further indicated that British ceramists were now in agreement that "ceramics" included a wide-ranging and diverse community of scientists, artists, and researchers.

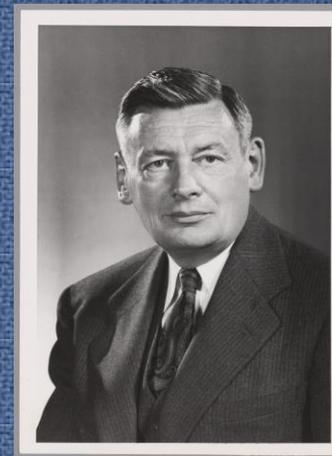
Epilogue: “Burnt Stuff” Resolved



In 1952, the first edition of Frederick Harwood Norton’s book, *Elements of Ceramics*, opened with an explanation:

“ceramics may be defined in a somewhat broader sense than the dictionary definition of “pottery” implies. It seems evident that the word *Keramos* meant “burnt stuff”; thus our modern term, ceramics, which includes whitewares, enamels, refractories, glass, cements, fired building materials, and abrasives, is not incompatible with the original usage.”

Overlooking Brongniart



CERAMICS
for the artist potter
by F. H. NORTON

Although Norton used the images from Brongniart’s *Atlas to the Arts céramiques*, he did not use *Arts céramiques* as a textual resource. Because Norton overlooked Brongniart’s foundational introduction to *Arts céramiques*, Norton’s brief etymology of the word “ceramics” and the word “*Keramos*” differs substantially from Brongniart’s seminal discussion. The omission of the key body of texts by Brongniart freed Norton to ascribe a vague origin for the “modern” (though inherently Brongniartian) usage he described. Moving forward, the omission made space for Norton and his student and successor W. D. Kingery to claim primacy in the creation of a “science of ceramics” a full century after Brongniart’s work had set the foundation for the field.

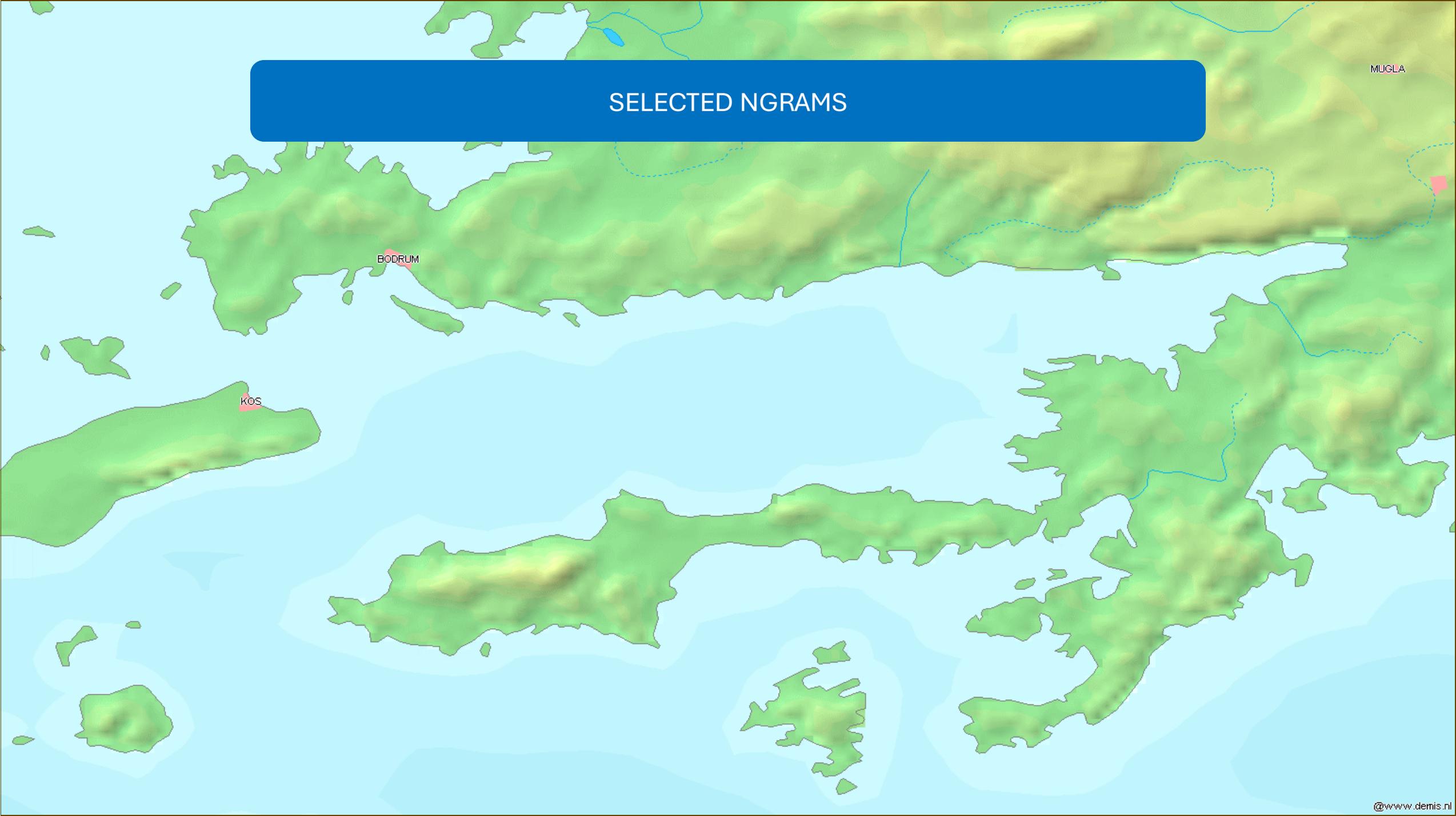
Julia Carr-Trebelhorn
University of Cincinnati

*The Missing Etymological Record: The Nineteenth-Century
Invention of “Ceramics” and Twentieth-Century Controversy*

Thank you!!

HSS Annual Meeting 2025
13-16 November 2025, New Orleans, LA

SELECTED NGRAMS

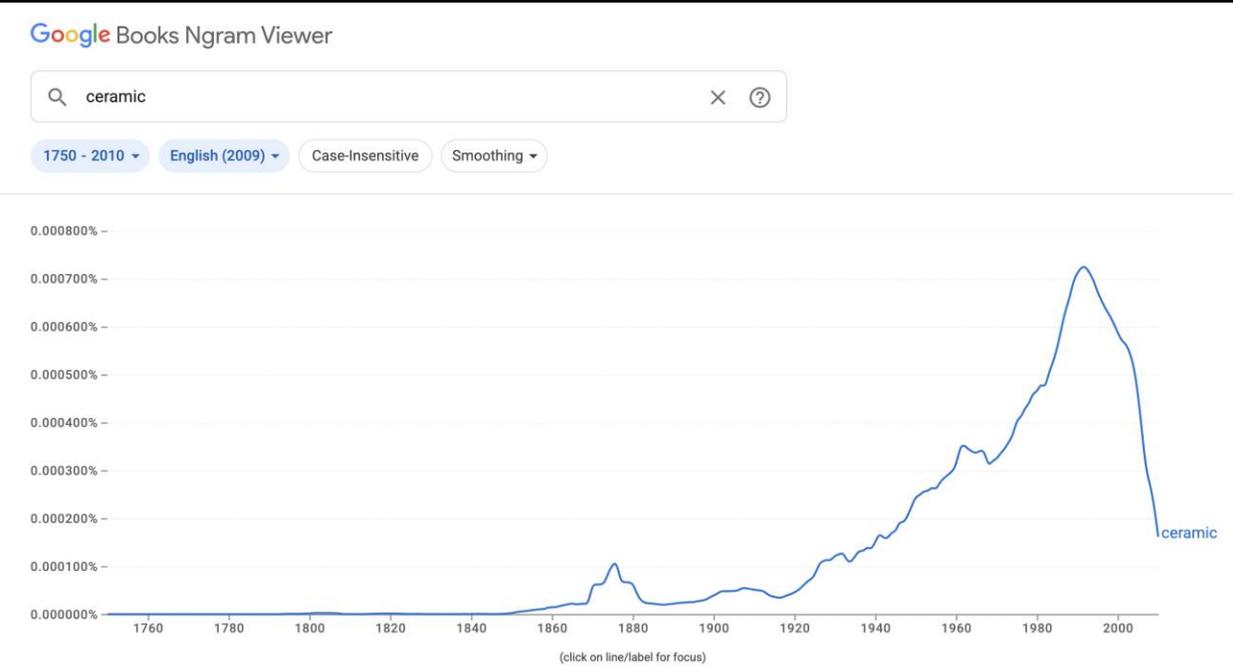


MUĞLA

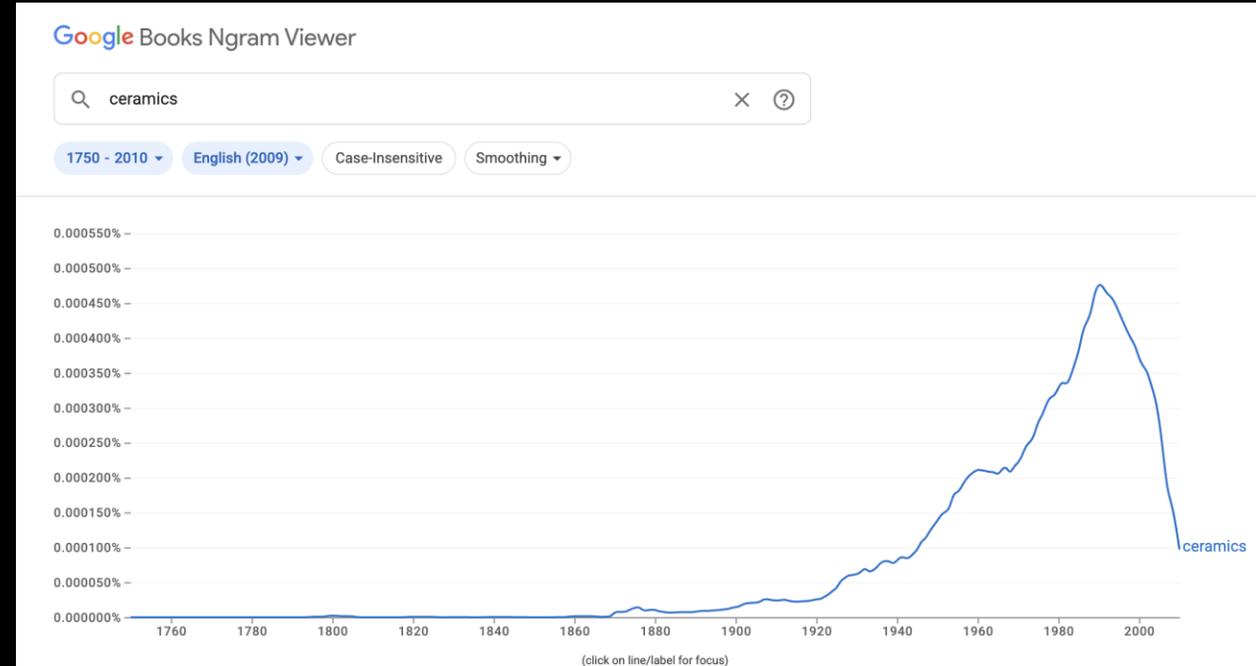
BODRUM

KOS

SELECTED NGRAMS

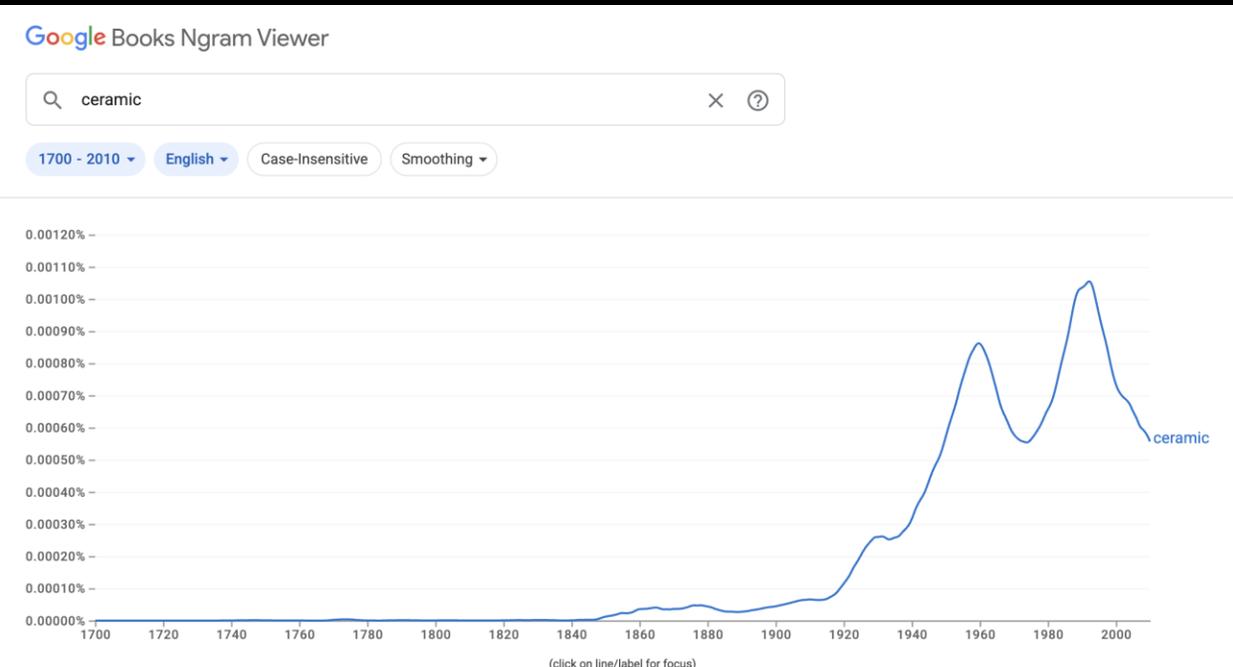


English (2009) • Ceramic • [1700-2010]

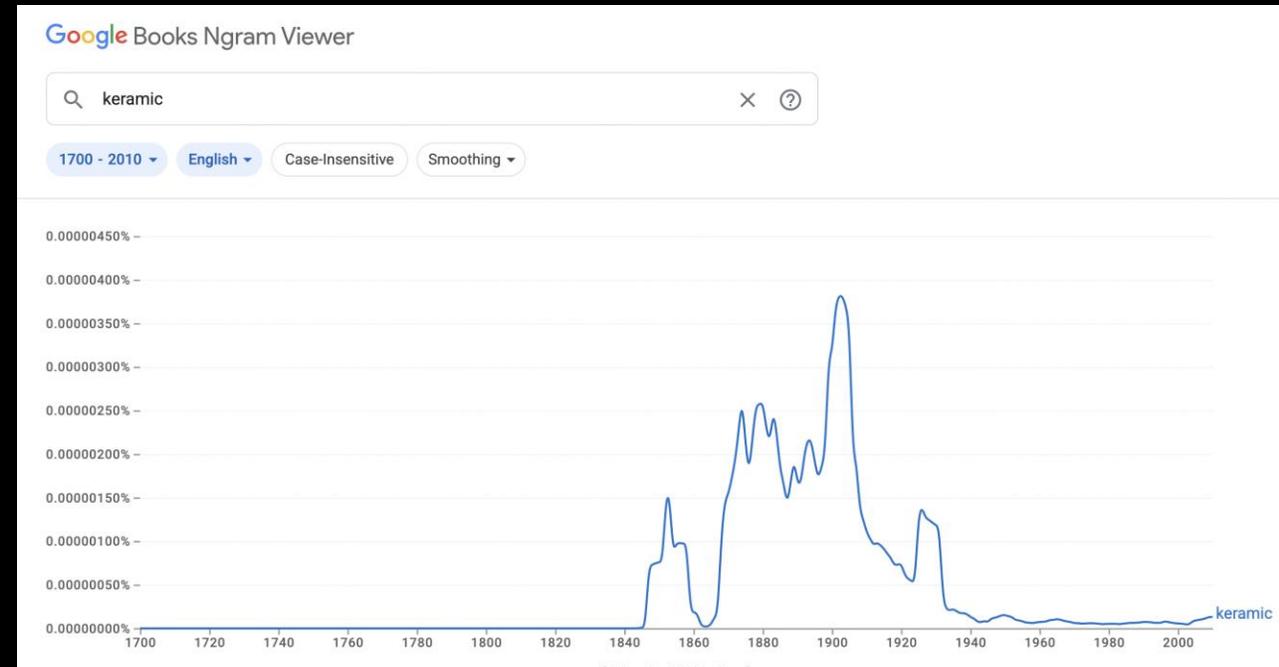


English (2009) • Ceramics • [1700-2010]

SELECTED NGRAMS



English (2009) • Ceramic • [1700-2010]



English (2009) • Keramic • [1700-2010]

SELECTED NGRAMS

Google Books Ngram Viewer

English (2009) • Ceramic (Red), Pottery (Blue) • [1800-2010]

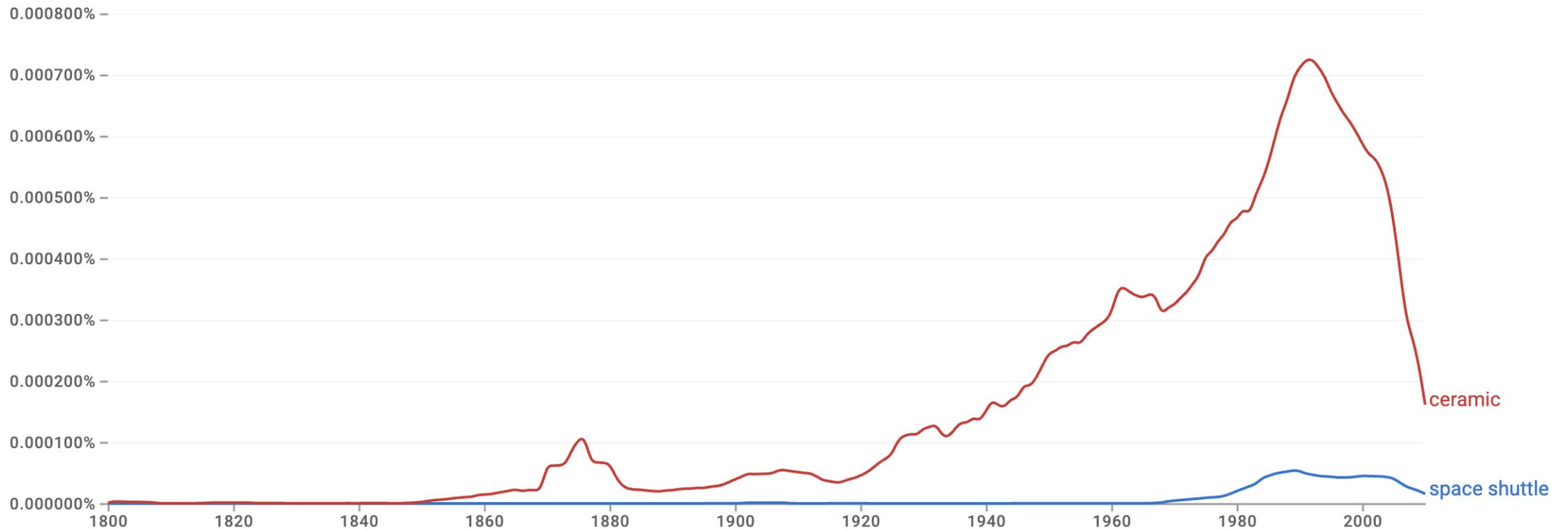
space shuttle,ceramic

1800 - 2010

English (2009)

Case-Insensitive

Smoothing



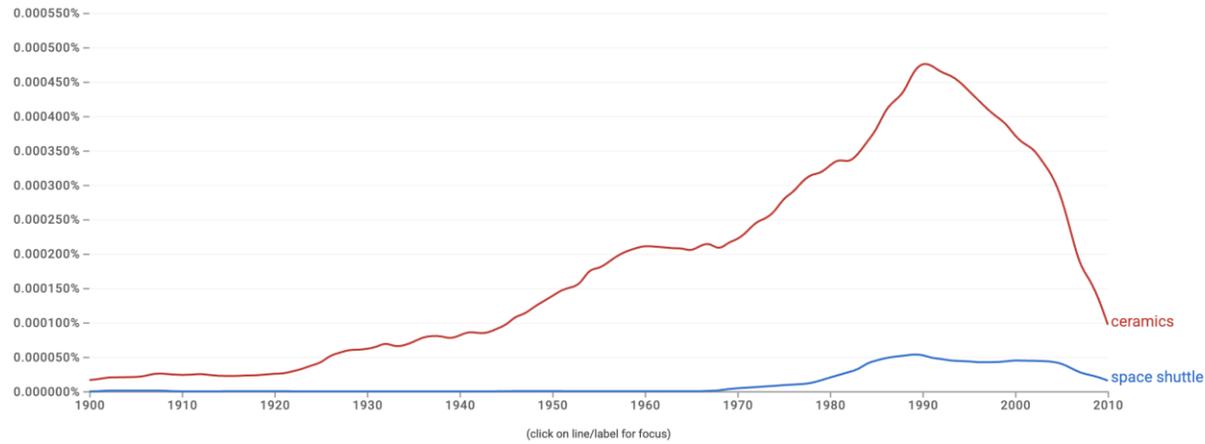
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English (2009) • Ceramics (Red), Space Shuttle (Blue) • [1900-2010]

Google Books Ngram Viewer

space shuttle,ceramics

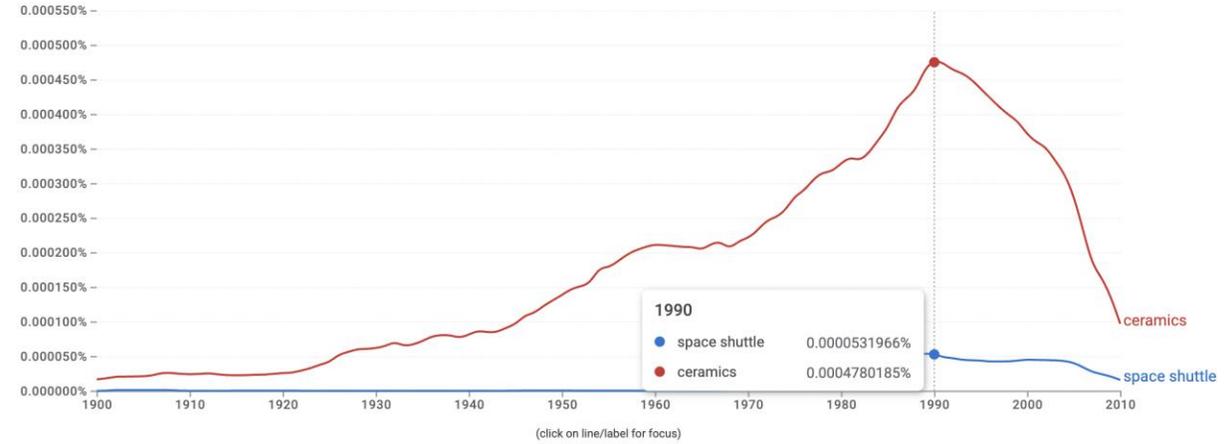
1900 - 2010 English (2009) Case-Insensitive Smoothing



Google Books Ngram Viewer

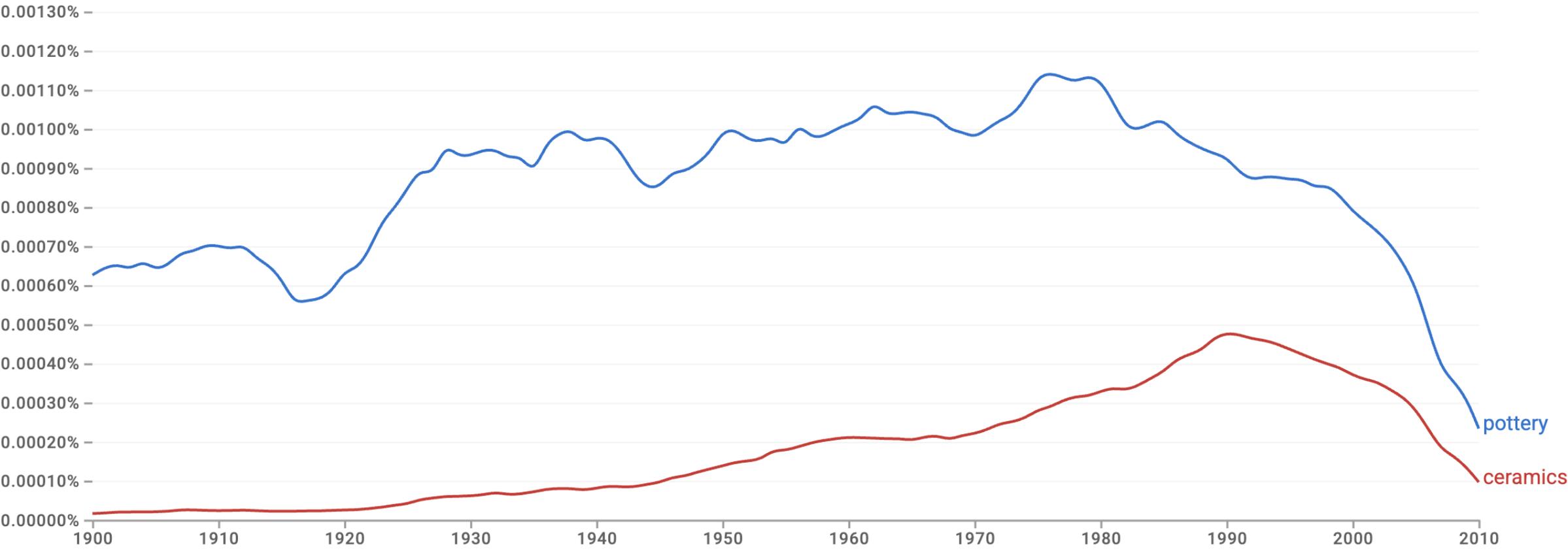
space shuttle,ceramics

1900 - 2010 English (2009) Case-Insensitive Smoothing



🔍 pottery,ceramics ✕ ?

1900 - 2010 ▾ English (2009) ▾ Case-Insensitive Smoothing ▾



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SELECTED NGRAMS

German • Keramik • [1700-2010]

Google Books Ngram Viewer

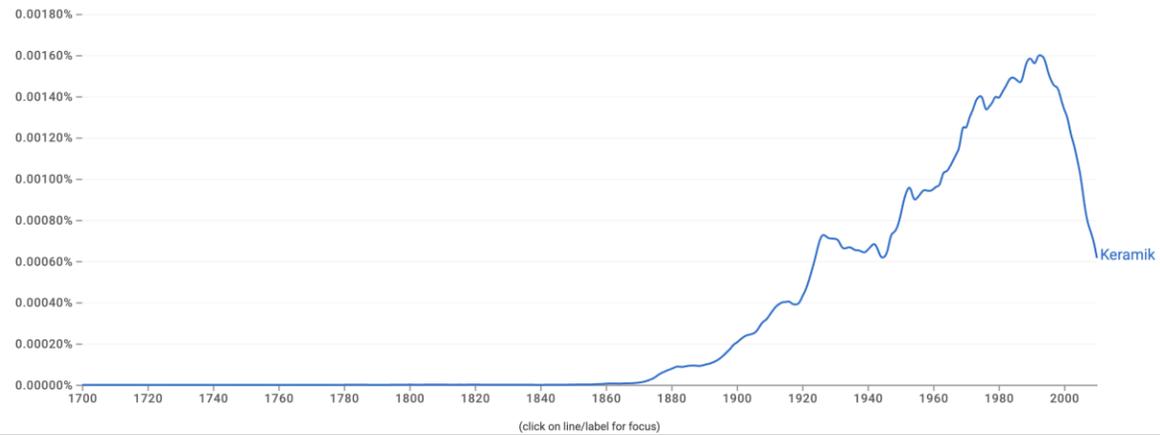
Q Keramik

1700 - 2010

German

Case-Insensitive

Smoothing



French • Céramique • [1700-2010]

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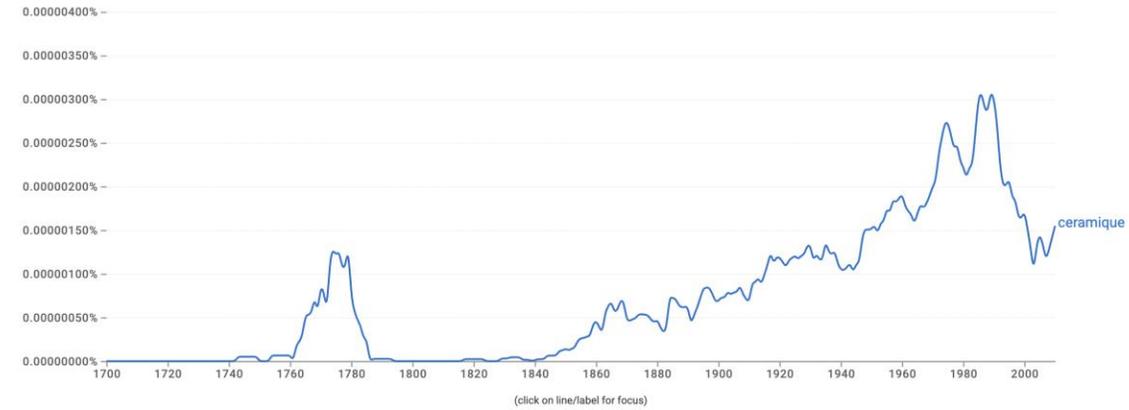
Q céramique

1700 - 2010

French

Case-Insensitive

Smoothing



French • Ceramics • [1700-2010]

Google Books Ngram Viewer

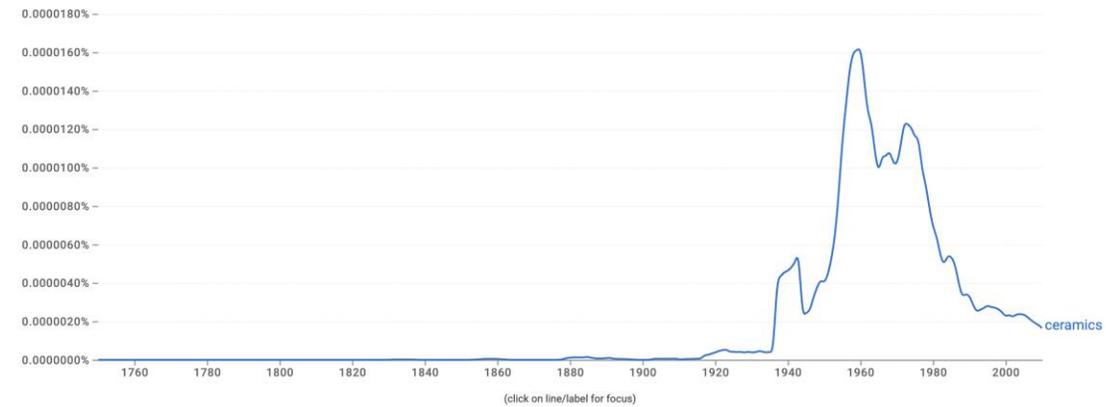
Q ceramics

1750 - 2010

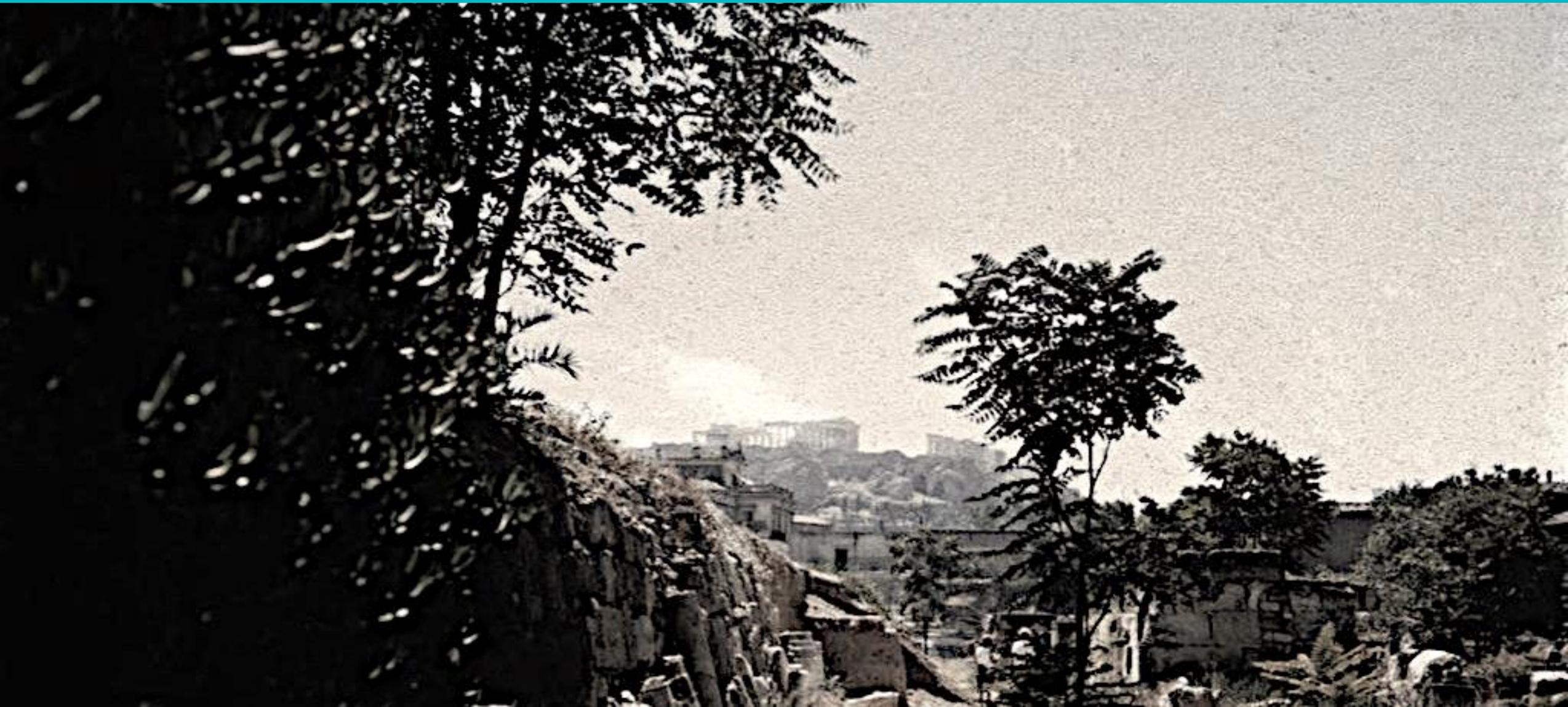
French

Case-Insensitive

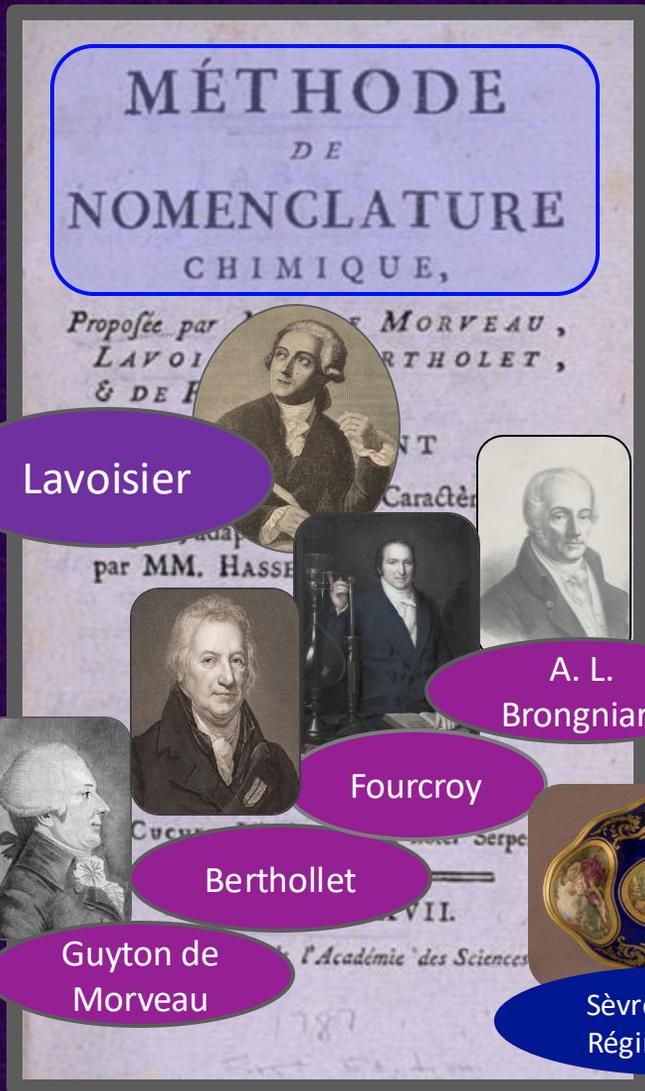
Smoothing



Brongniart's Networks



Networks and Influences – Alexandre Brongniart



MÉTHODE
DE
NOMENCLATURE
CHIMIQUE,
Proposée par L. LAVOISIER, GUYTON DE MORVEAU,
& DE J. BERTHOLLET,
par MM. HASSE

Lavoisier

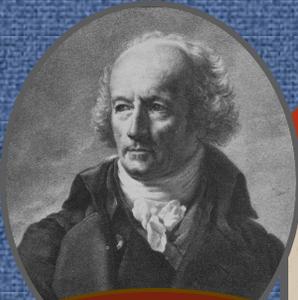
Fourcroy

Berthollet

Guyton de Morveau

A. L. Brongniart

Sèvres, Ancien Régime, 18th C



Théodore Brongniart, architect



Alex. Brongniart



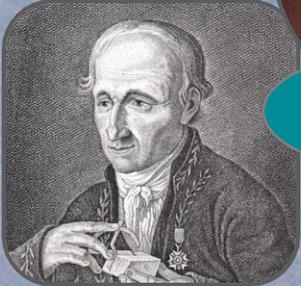
Napoléon



Sèvres, after 1800

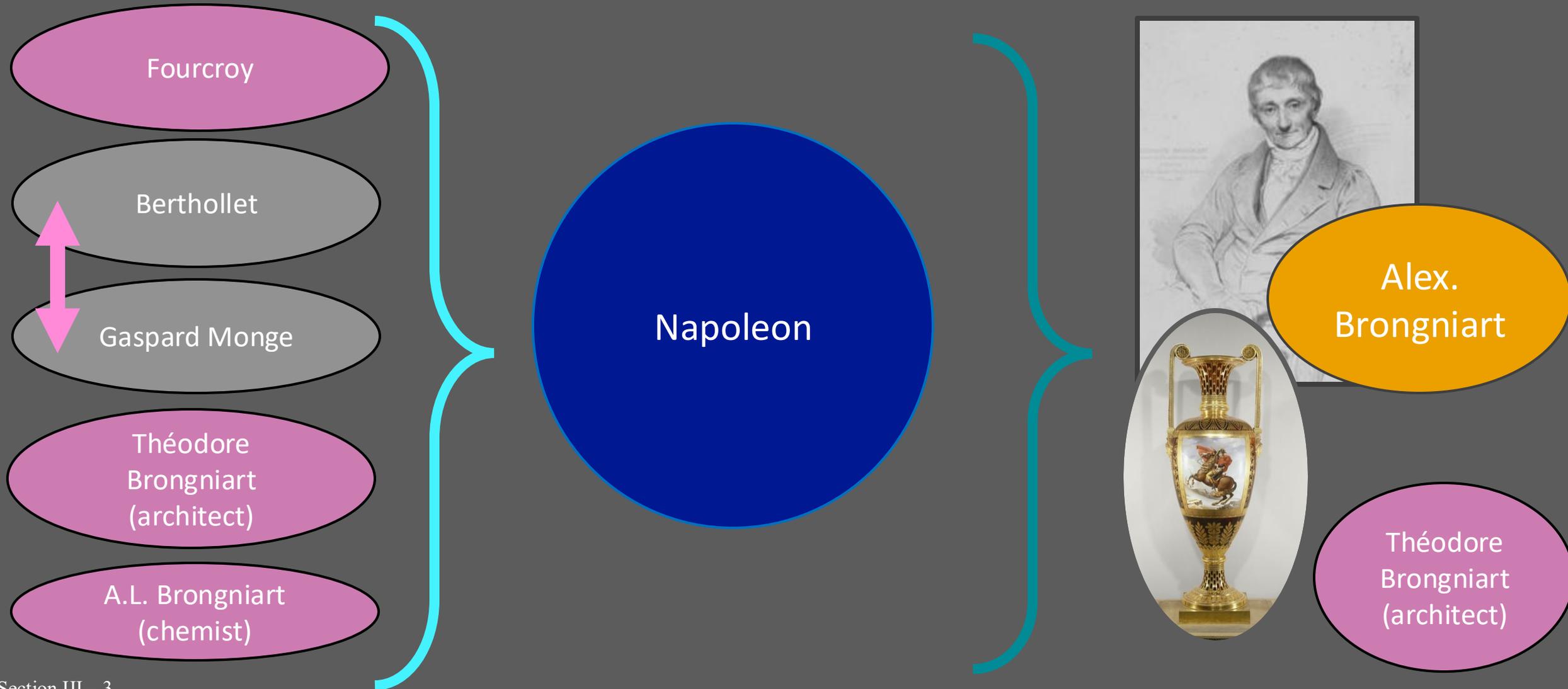


Fourmy



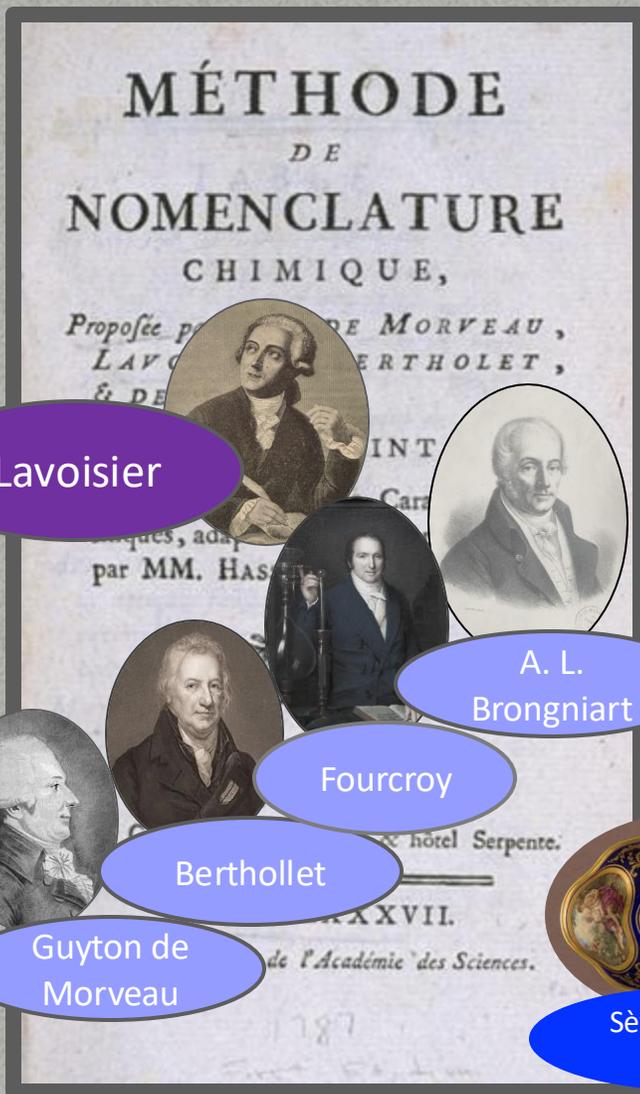
René Just Haüy

From the Coup of Brumaire to Success in the Napoleonic Empire



Why did Fourmy (and Haüy) introduce these words, and why at this moment?

Networks and Influences – Alexandre Brongniart



Lavoisier



A. L.
Brongniart

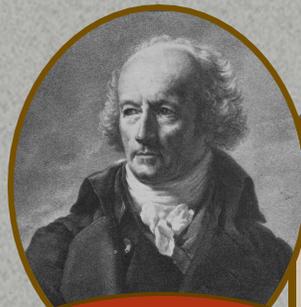
Fourcroy

Berthollet

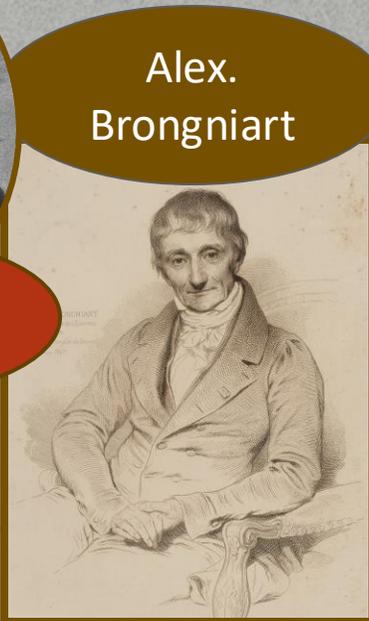
Guyton de
Morveau



Sèvres, Ancien
Régime



Théodore
Brongniart,
architect



Alex.
Brongniart



Napoléon



Sèvres, after
1800



Fourmy



René Just
Haüy

Early Stratigraphy and Palaeontology

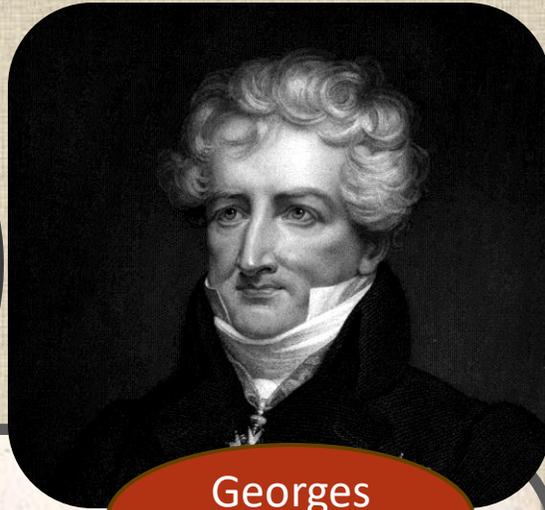
The root word “ceram–” in new nomenclature



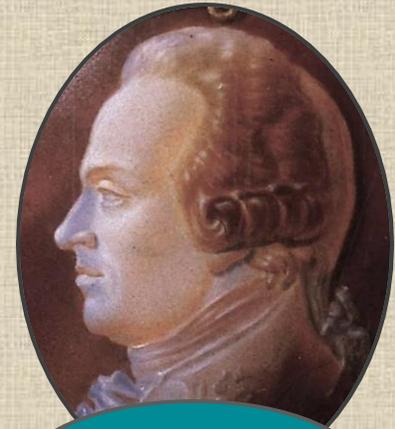
Georges Sowerby



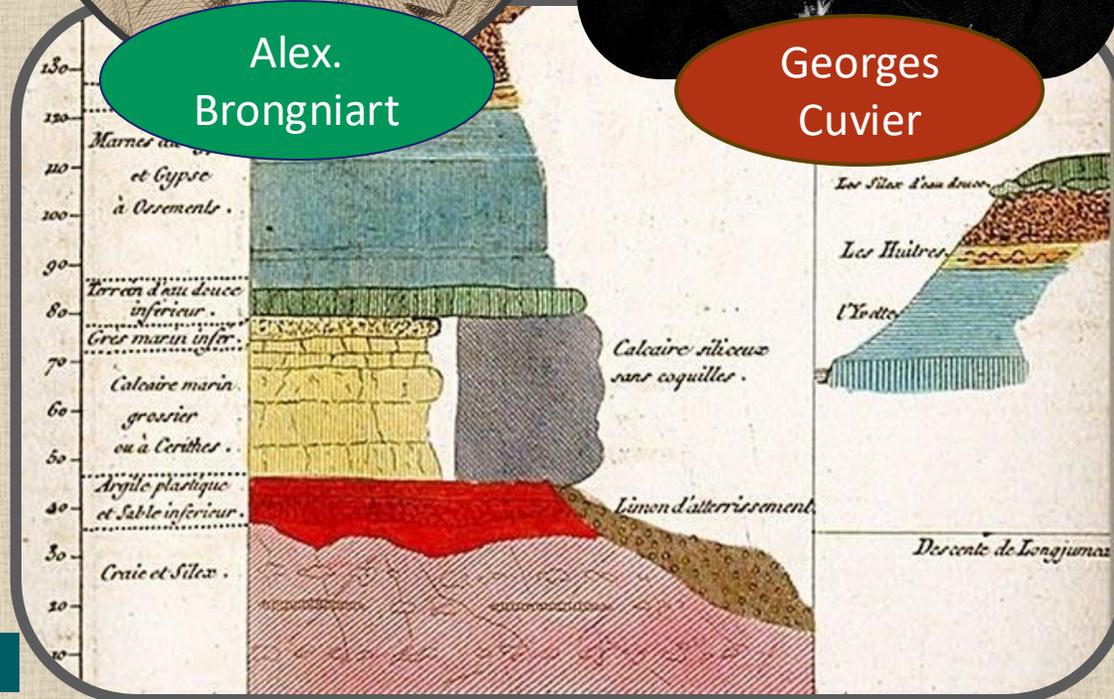
Alex. Brongniart



Georges Cuvier



Jacques Fourmy



Section V - 2



René Just Haüy