

Fig. I.

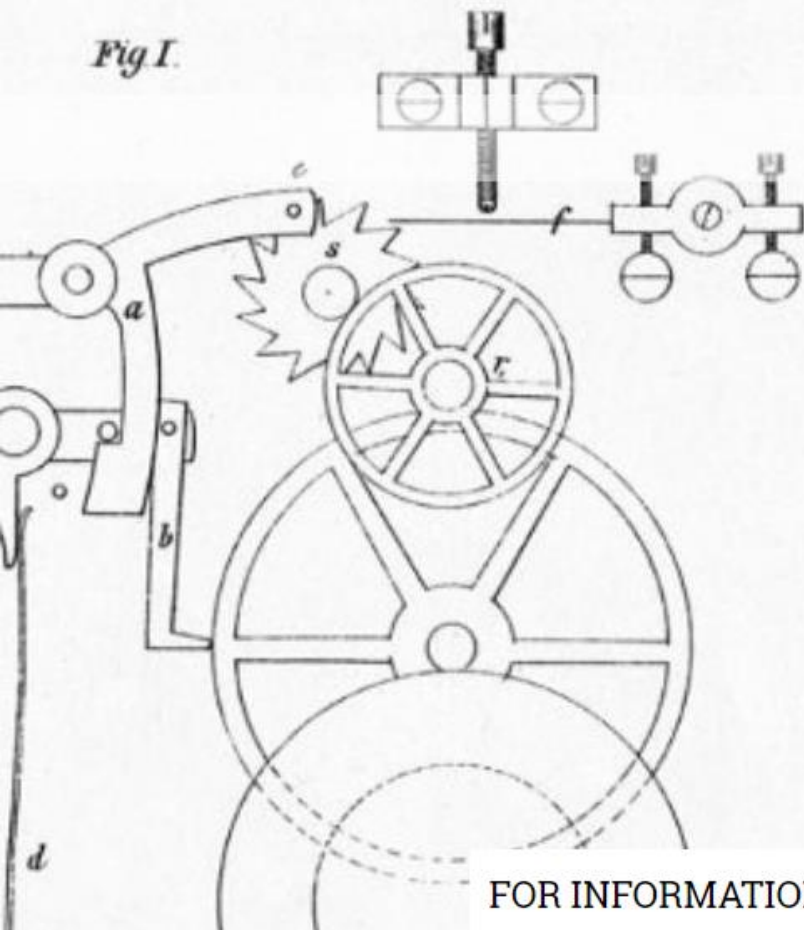
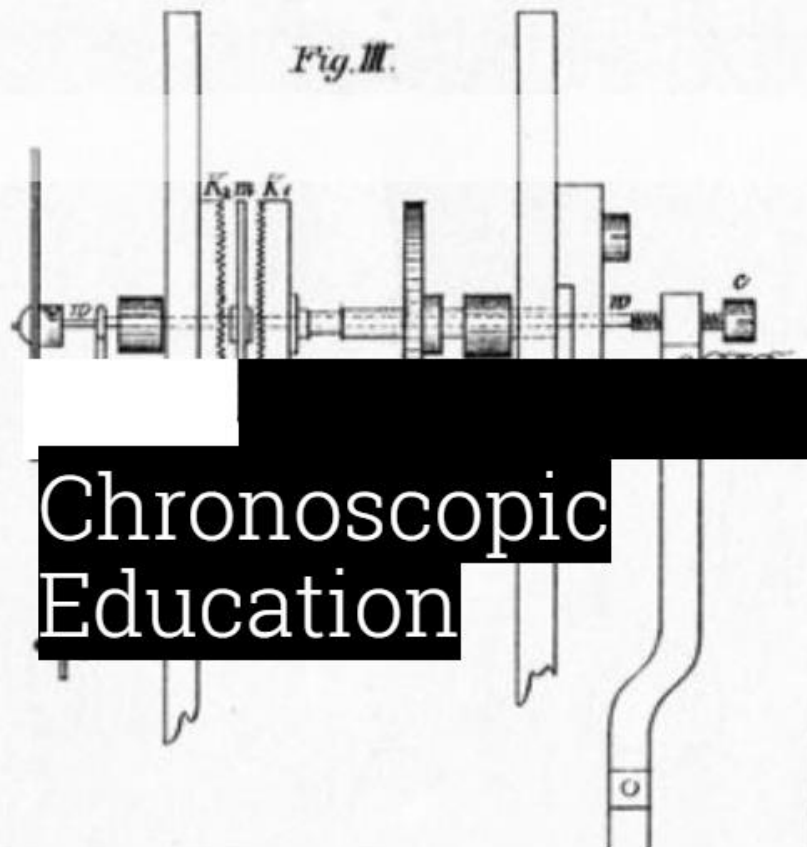
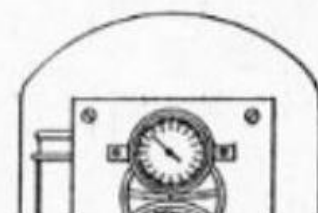


Fig. III.



Chronoscopic Education

Fig. V.

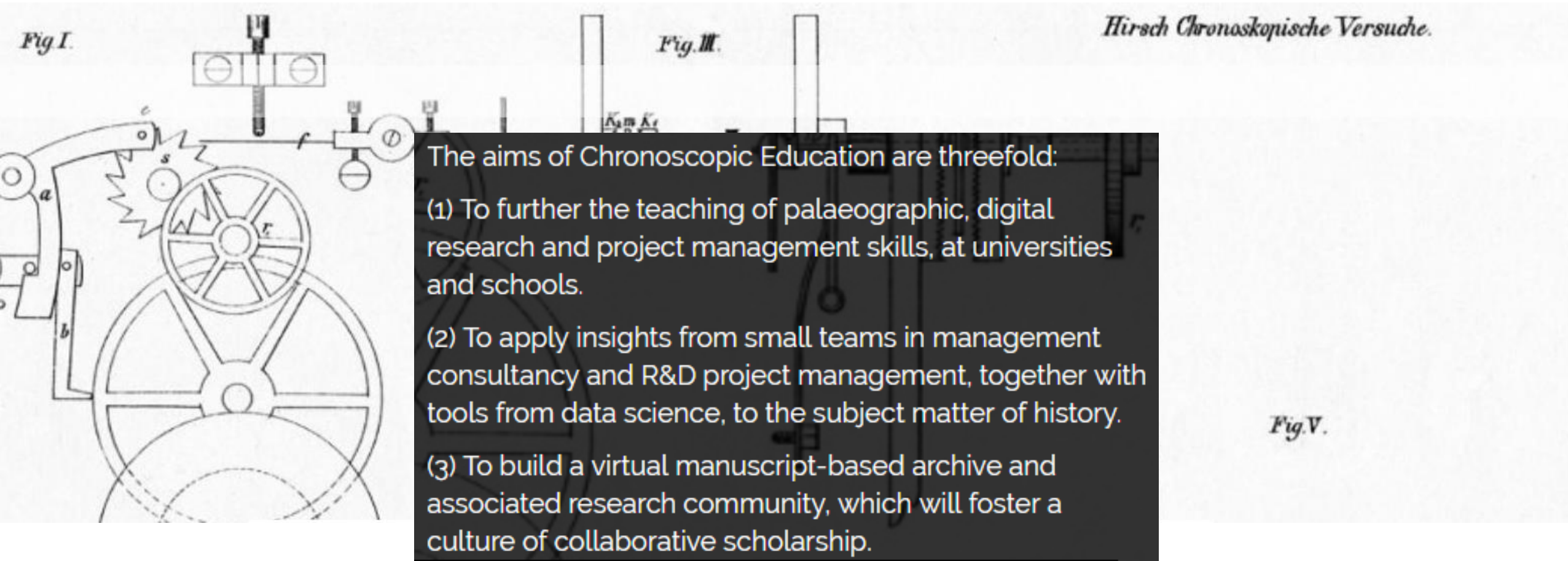


FOR INFORMATION ABOUT OUR OUR AIMS AND OUR PROJECTS



Signs of Literacy
Kaggle Research Competition
Colin Greenstreet
Tuesday, June 26th, 2018

Our social aims



Project portfolio

MarineLives



Signs of Literacy



Maphackathon



EM Textiles, Garments & Dyestuffs Glossary



EM Maritime & Mercantile Gazetteer



Signs of Literacy Kaggle Research Competition, Nov 2018 – Jan 2019



Google owned Kaggle has selected us as one of a small number of pro bono competitions they support each year on the merits of our proposal, and the potential impact on the research field and community of the competition.

Kaggle will cover the running costs of the competition. We will provide the prize pool, and are now seeking to raise US \$30,000 from potential sponsors and partners.

The Proof of Concept will contain two parts:

- (1) Algorithmic identification of markes, initials and signatures.
- (2) Algorithmic discrimination between degrees of "sophistication" within the three categories of "marke"; "initial(s)", and "signature".

Having proven the concept, we will seek out an image or vision oriented computational laboratory with which to develop a grant funded collaboration to take the work further in 2019 and beyond.

User requirements

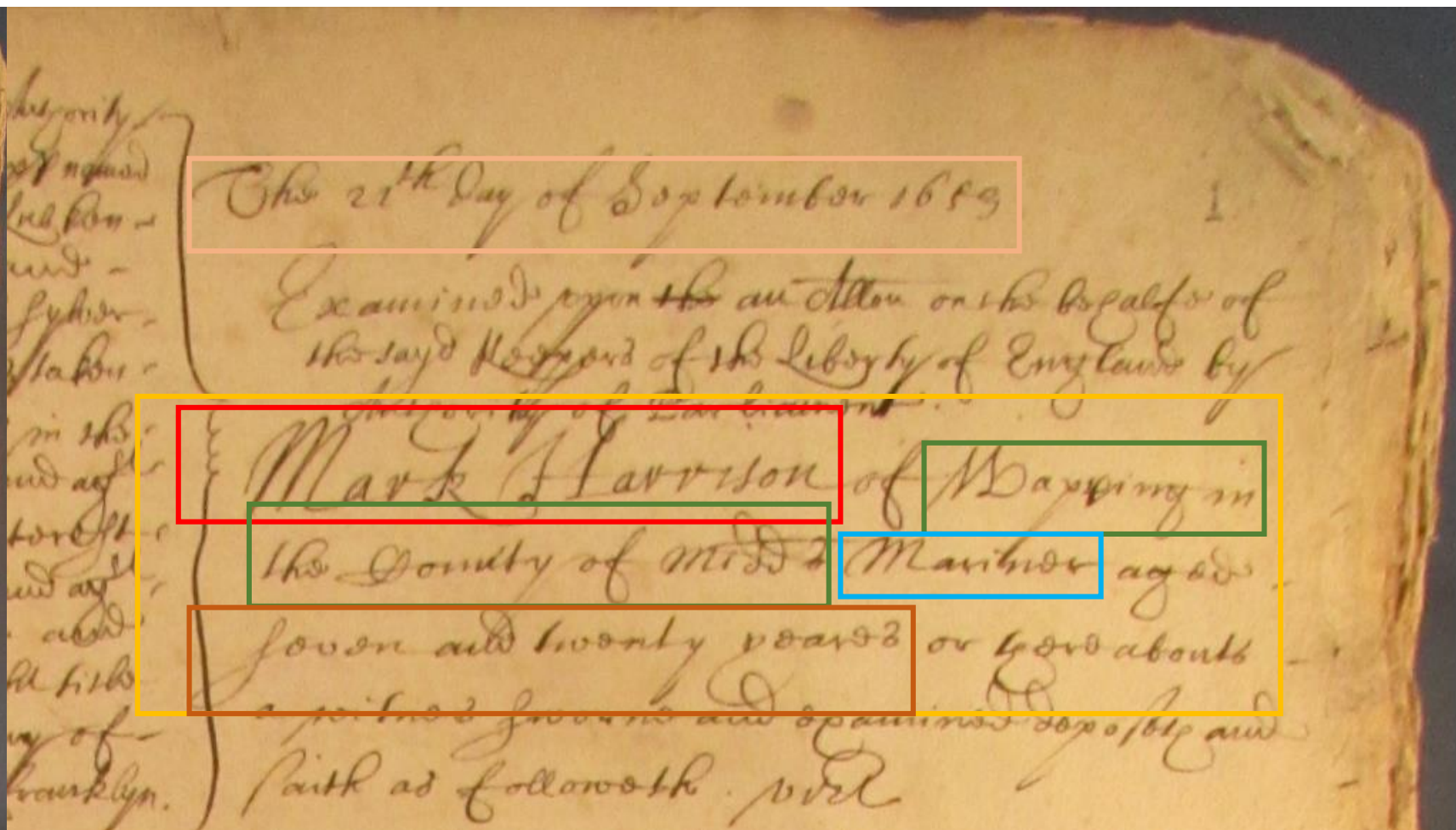
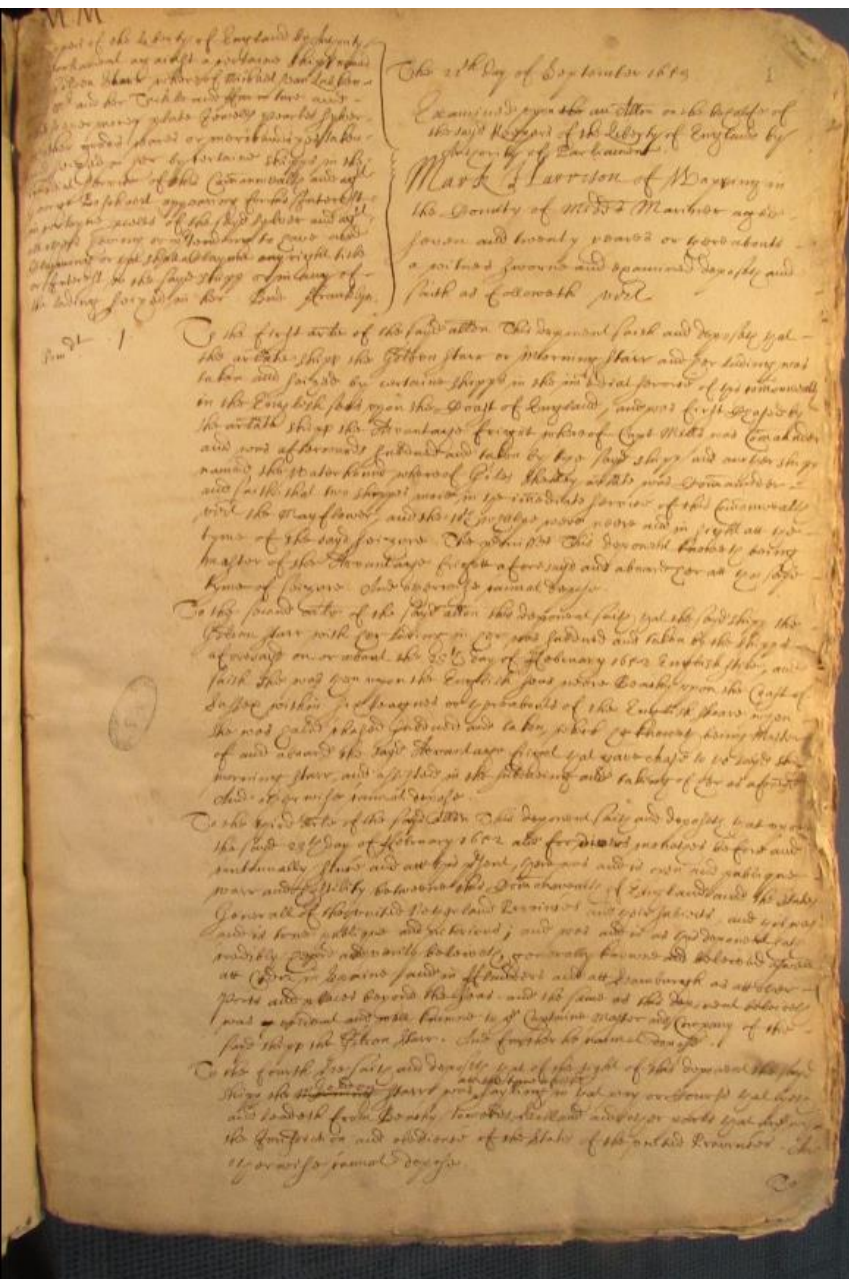
- Automatic identification of manuscript pages containing signoffs
- Markup of manuscript pages to isolate signoffs (markes, initials, signatures)
 - Hand markup of manuscript pages, but ideally automated markup
 - Signoffs can be single or multiple, for single or multiple depositions
 - Deponent signoffs; interpreter signoffs
- Automatic differentiation between classes of markes, initials and signatures
- Automatic differentiation within each class as to sophistication of execution & other parameters as a surrogate for literacy
- Automatic identification of manuscript pages containing deponent metadata (name; age; occupation; place of residence; date of deposition)
- Markup of manuscript pages to isolate deponent metadata
- Hand writing text recognition of deponent metadata and associate metadata with correct signoff
- Geo-referencing of signoffs
 - Display signoffs and/or manuscript pages containing signoffs by georeferences

Legal deposition

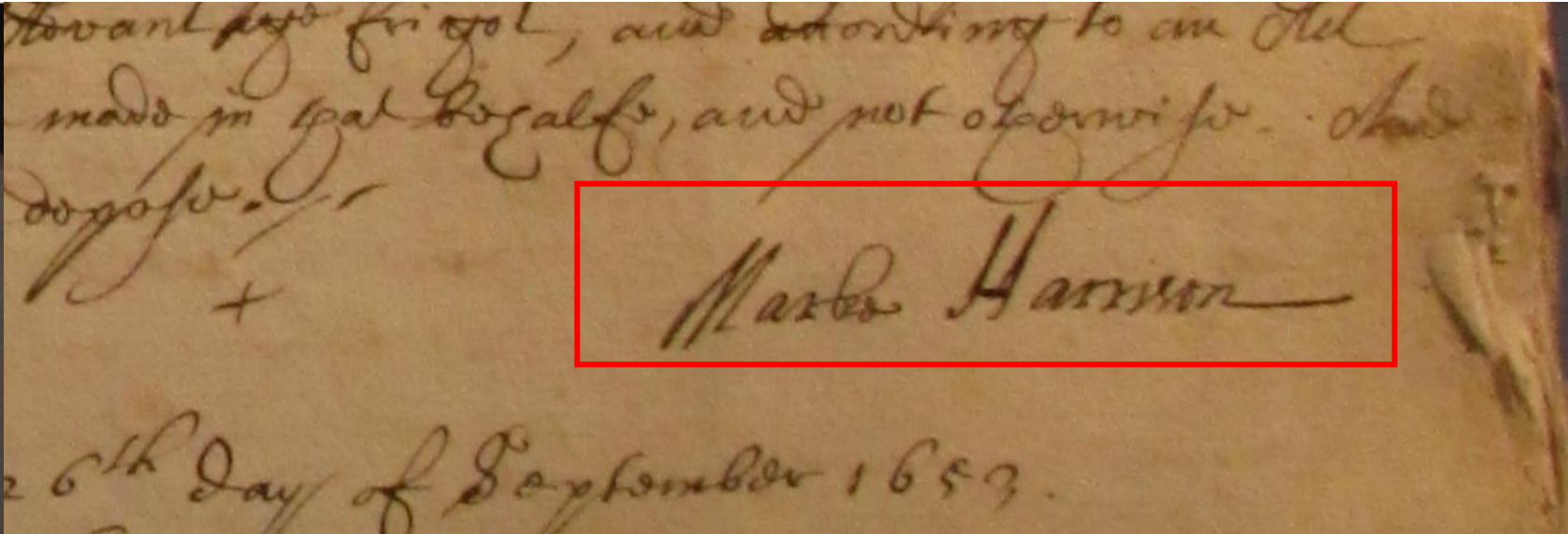
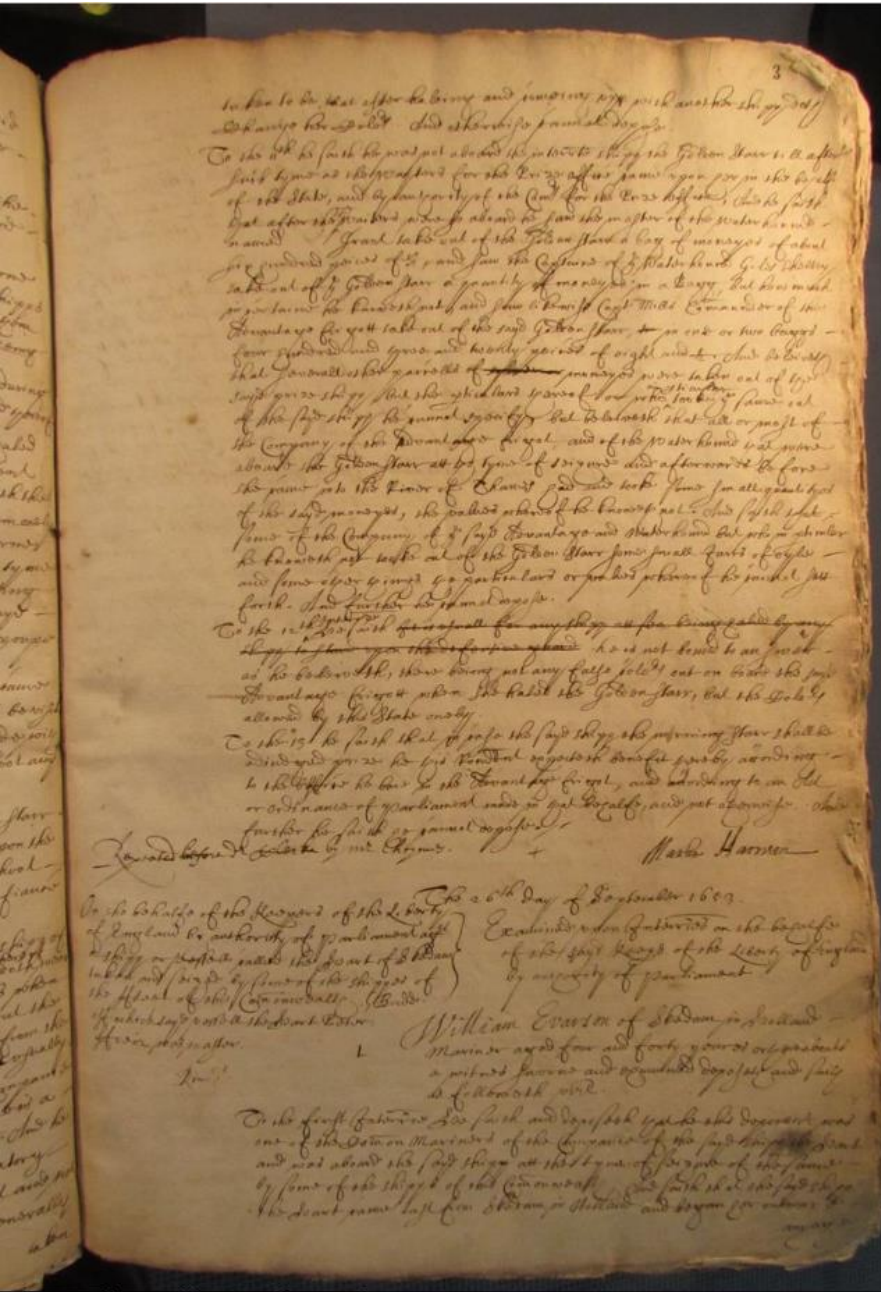
Deposition of Mark Harrison; mariner and master; resident in Wapping, Middlesex; age 27;
Dated September 21st 1659 (TNA, HCA 13/68, ff. 1r-3r)



Metadata



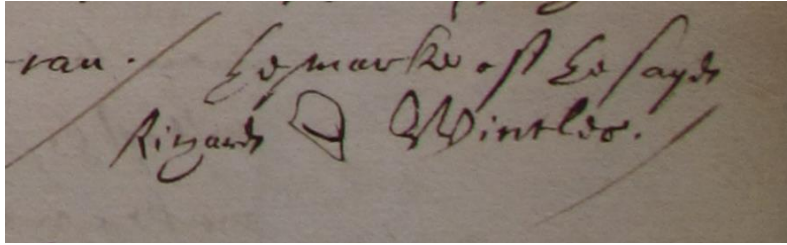
Signoff



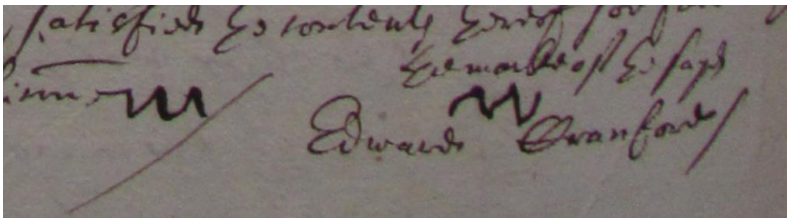
http://www.marinelives.org/wiki/HCA_13/68_f3r_Annotate

Porters handling coals, whale oil, ginger & corn

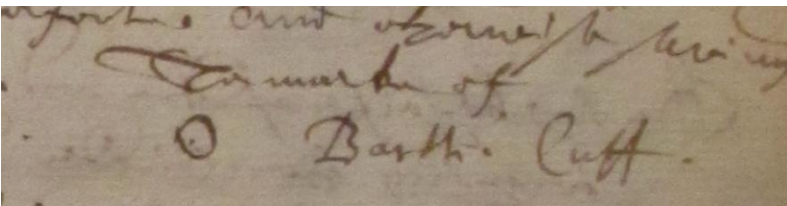
Richard Wincles, thirty-three year old porter, of the parish of Stepney, Middlesex, Dec. 15, 1656; employed as a labourer with fifteen other men to unload coals from the *Imployment* moored near Execution Dock, Wapping, into lighters for fixed rate of 12 s per man ([HCA 13/70 f.554r](#))

A handwritten signature in dark ink on aged paper. The text reads "Richard Wincles." with a large, stylized initial "R" and a flourish at the end.

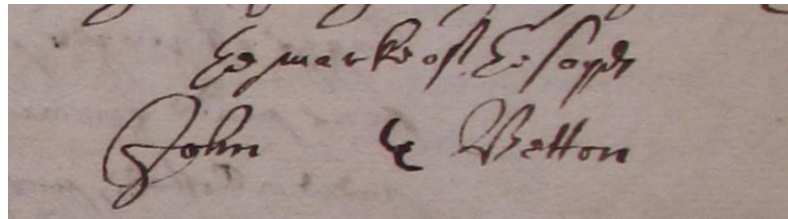
Edward Cranford, forty-four year old coale heaver or porter, of the parish of Stepney, Middlesex, Dec. 15, 1656; employed as a labourer with fifteen other men to unload coals from the *Imployment* moored near Execution Dock, Wapping, into lighters for fixed rate of 12 s per man ([HCA 13/70 f.555v](#))

A handwritten signature in dark ink on aged paper. The text reads "Edward Cranford" with a large, stylized initial "E" and a flourish at the end.

Bartholomew Cuff, sixty year old porter of the Stillyard, of the parish of Allhallowes the Greate, London, May 15, 1658; assisted in the landing of whale oil from lighters at the Stillyard Key and loading them away into a warehouse ([HCA 13/70 f.555v](#))

A handwritten signature in dark ink on aged paper. The text reads "Bartholomew Cuff" with a large, stylized initial "B" and a flourish at the end.

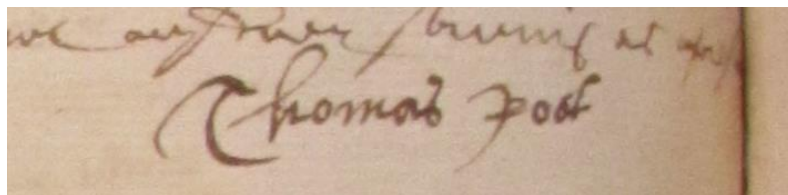
John Betton, fifty-four year old citizen and white baker of London, of the parish of Saint Buttolph Algate, London, Jul. 31, 1655; self-described as a porter employed by the Commissioners for Prize Goods to deliver ginger from a warehouse at Ralphes Key ([HCA 13/70 f.449r](#))

A handwritten signature in dark ink on aged paper. The text reads "John Betton" with a large, stylized initial "J" and a flourish at the end.

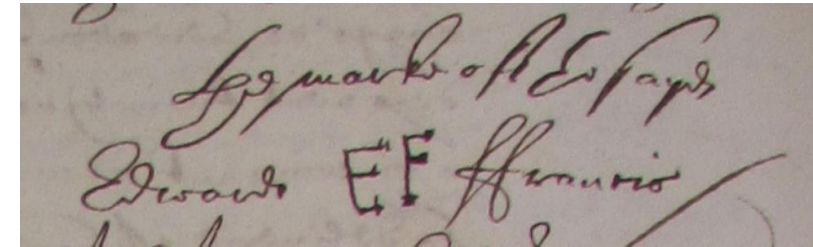
Edward Sherwin, fifty-six year old cittizen and leatherseller, of the parish of Little Allhallowes, London, Jul. 31, 1655; self-described as a porter employed by the Commissioners for Prize Goods to deliver ginger from a warehouse at Ralphes Key ([HCA 13/70 f.449v](#))

A handwritten signature in dark ink on aged paper. The text reads "Edward Sherwin" with a large, stylized initial "E" and a flourish at the end.

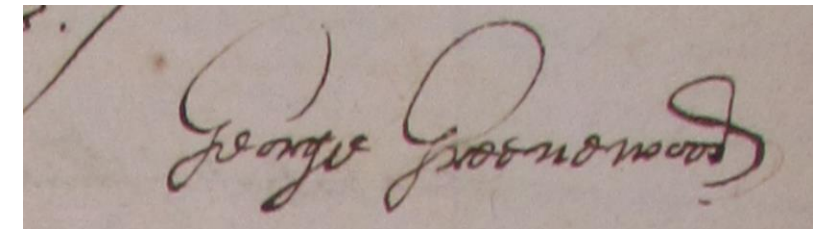
Thomas Roots, twenty-nine year old porter, of the parish of Greate Allhallowes, London, May 15, 1658; assisted in the landing of whale oil from lighters at the Stillyard Key, as one of the Stillyard porters, and loading them away into a warehouse ([HCA 13/72 f.330v](#))

A handwritten signature in dark ink on aged paper. The text reads "Thomas Roots" with a large, stylized initial "T" and a flourish at the end.

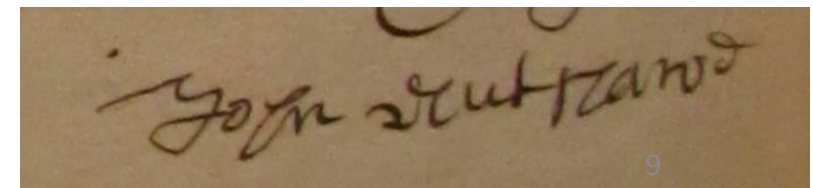
Edward ffrancis, citizen and merchantaylor of London, of the parish of Saint Olave in Southwarke, Jul. 31, 1655; self-described as a porter employed by the Commissioners for Prize Goods to deliver ginger from a warehouse at Ralphes Key ([HCA 13/70 f.450v](#))

A handwritten signature in dark ink on aged paper. The text reads "Edward Francis" with a large, stylized initial "E" and a flourish at the end.

George Greenwood, thirty year old citizen and vintner of London, of the parish of Saint Buttolph Bishopsgate, London, Jul. 31, 1655; self-described as a porter employed by the Commissioners for Prize Goods to deliver ginger from a warehouse at Ralphes Key ([HCA 13/70 f.454r](#))

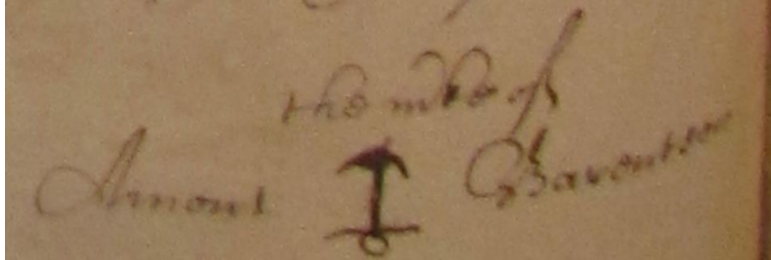
A handwritten signature in dark ink on aged paper. The text reads "George Greenwood" with a large, stylized initial "G" and a flourish at the end.

John Nutshall, fifty-five year old corne porter, of the parish of Saint Saviours Southwarke, Nov. 19, 1653; employed with a barber chyrurgeon/corne meter, an additional corne-meter, and other labourers to unlade a cargo of what in the *ffortune* of Stettin, moored against Limehouse; eight years of experience as a corne porter ([HCA 13/70 f.352v](#))

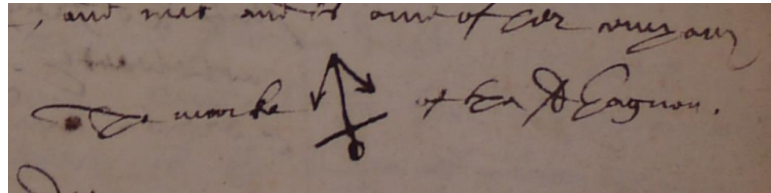
A handwritten signature in dark ink on aged paper. The text reads "John Nutshall" with a large, stylized initial "J" and a flourish at the end.

Anchors

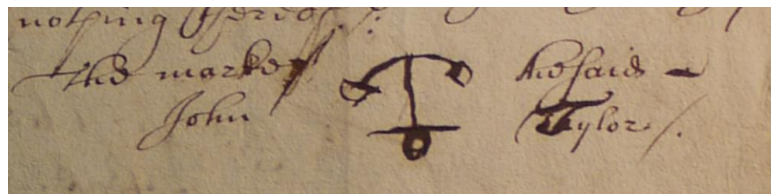
Amons Barentsen, thirty-five year old mariner, of Copenhagen, Denmark, October 13th, 1653; self-described as an “ordinary mariner”, hired to sail from the Sound to Hamburg on the *Golden Hawke* of Stockholm ([HCA 13/68 f.81v](#))



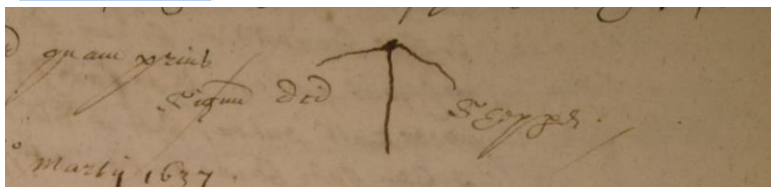
Claude de Gagnon, twenty-five year old mariner, of Melon, near Brest in Brittany, May 22nd, 1656 ([HCA 13/71 f.225r](#))



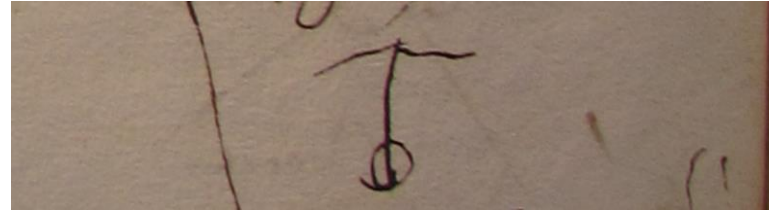
John Tylor, forty-two year old shipwright, of Lower Shadwell, in the parish of Stepney, Middlesex, February 14th, 1659 ([HCA 13/73 f.36r](#))



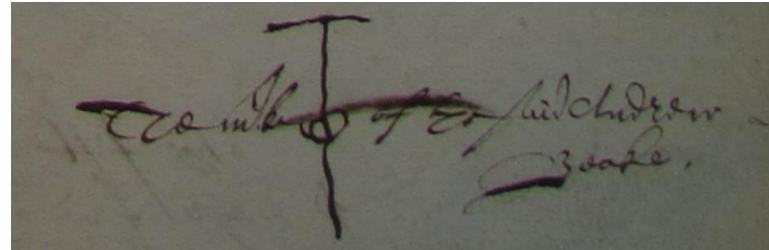
Richard Shepperd, fifty-eight year old cooke, of Brixton, Devon, March 29th, 1637; self-described cooke of the *Hope* of Ipswich ([HCA 13/53 f.87r](#))



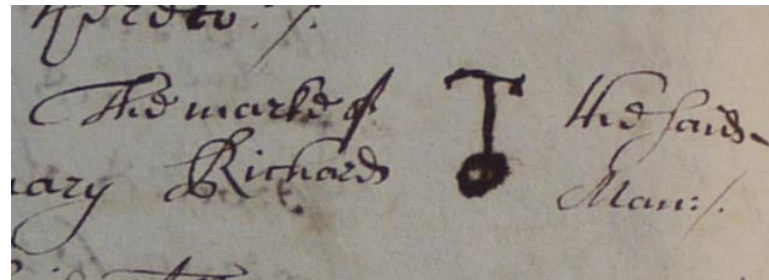
Andrew Beake, thirty-six year old lookeinglassemaker and formerly seaman, of Rose alley without Bishopsgate, London, January 21st, 1655 ([HCA 13/70 f.252v](#))



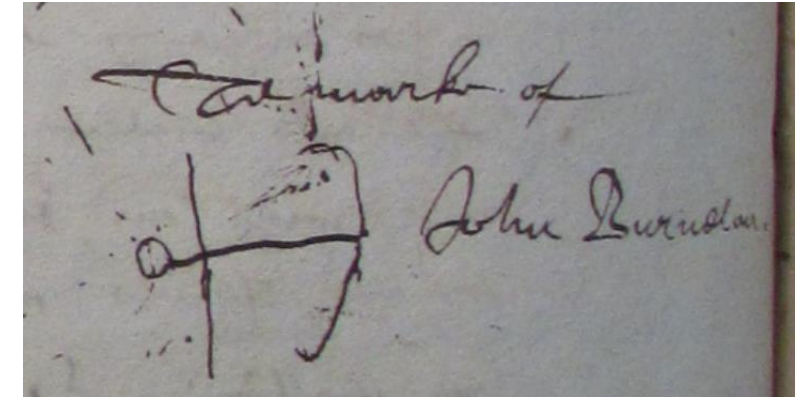
Andrew Beake, thirty-six year old looking-glasse maker, of Rose-Alley in Bishopsgate streete, London, February 13th, 1655 ([HCA 13/70 f.252v](#))



Richard Man, thirty-one year old mariner, of Southampton, January 8th, 1659; self-described common man of the *Lisbone ffrigott* on voyage to Oratava ([HCA 13/73 f.26v](#))



John Burnelau, twenty-eight year old sailor, of Mornar, France, March 30th, 1661 ([HCA 13/73 f.486v](#))

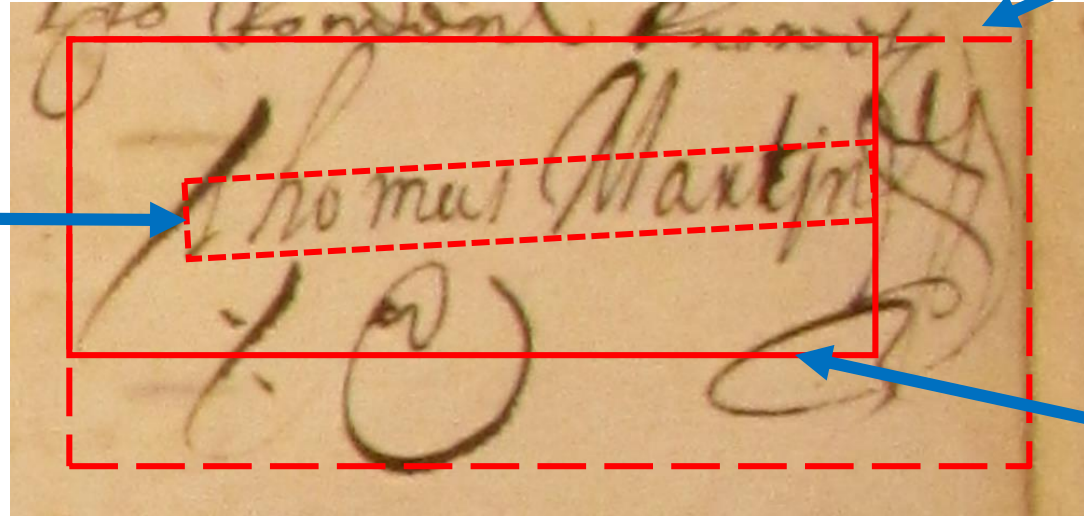


Putting boundary boxes on C17th signatures



Boundary boxes marking the visual geometry of a signature

Inside boundary box, excluding uppers and downers



Outside boundary box, including flourish

Middle boundary box, including all letters, but excluding flourish

Statistics

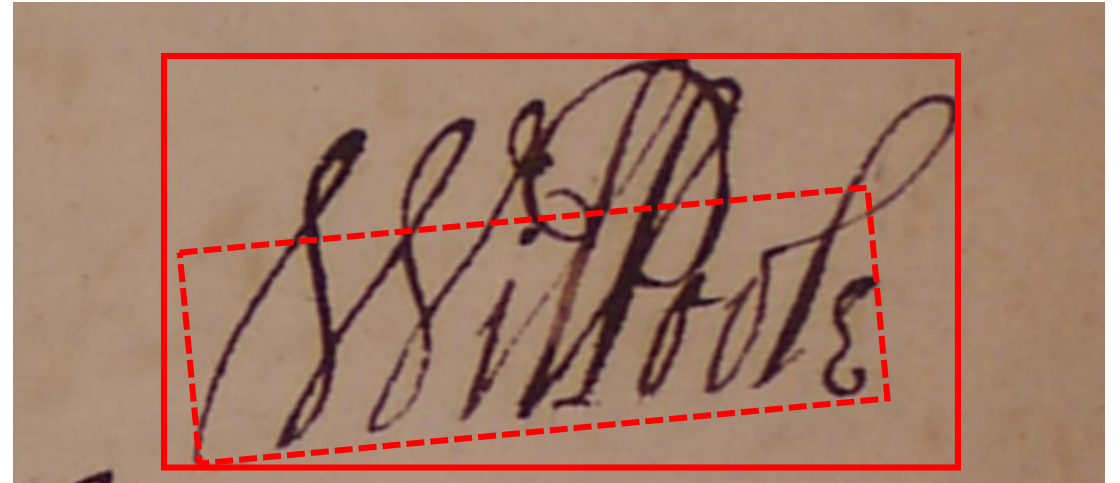
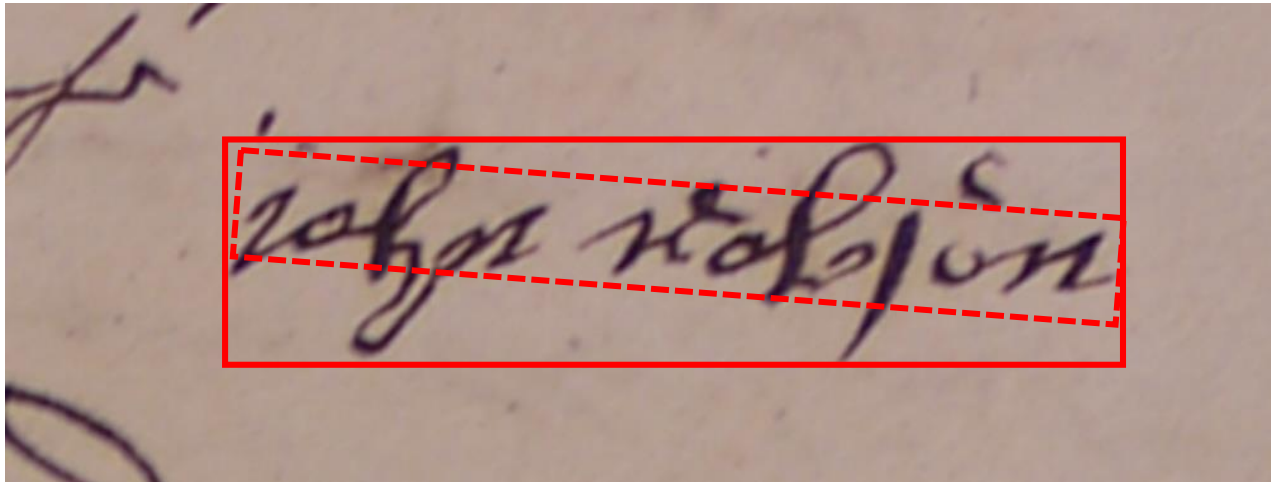
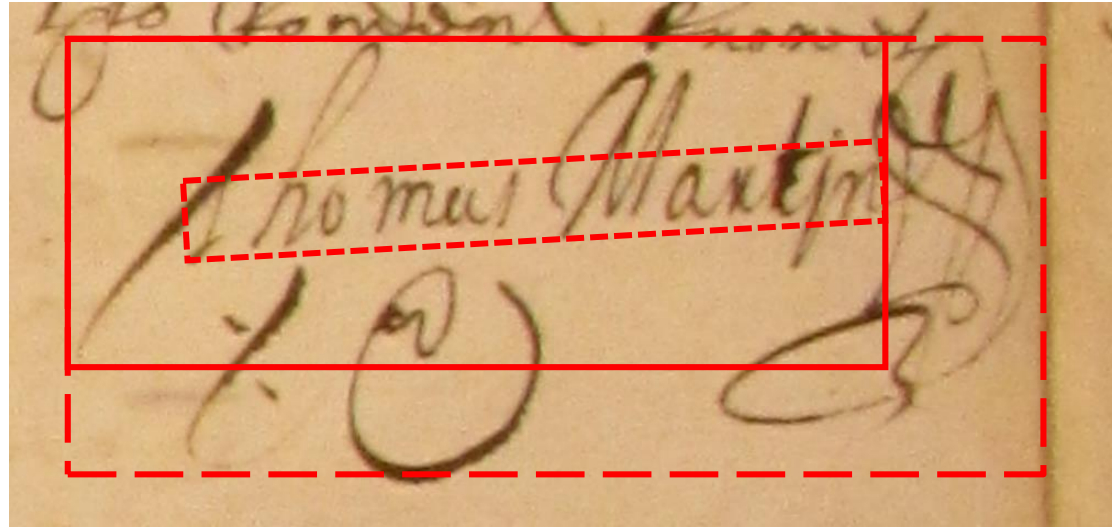
Inside boundary box: 9.0 x 1.1

Middle boundary box: 9.75 x 4.25

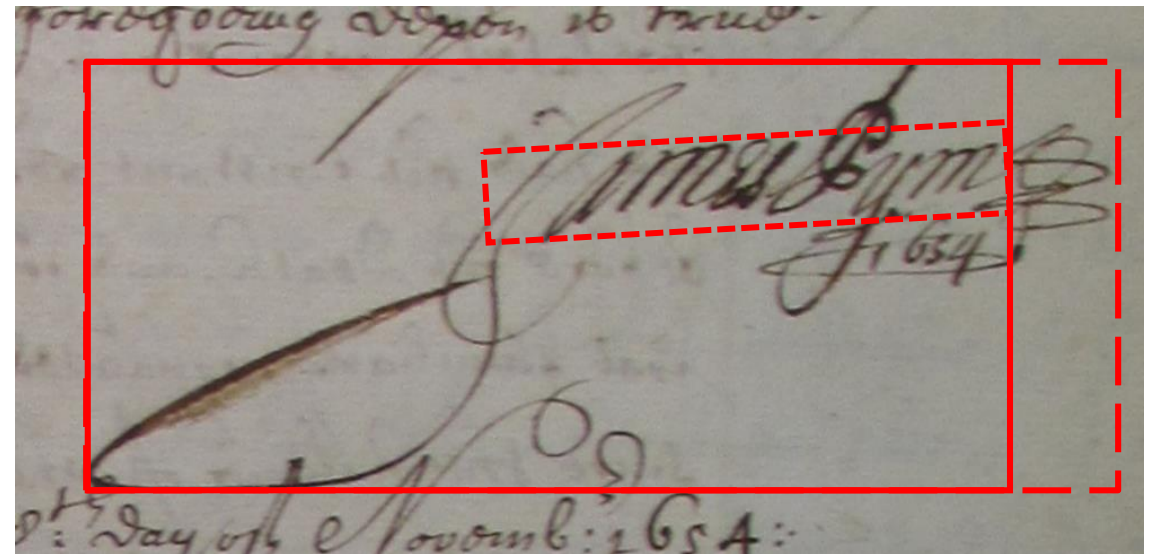
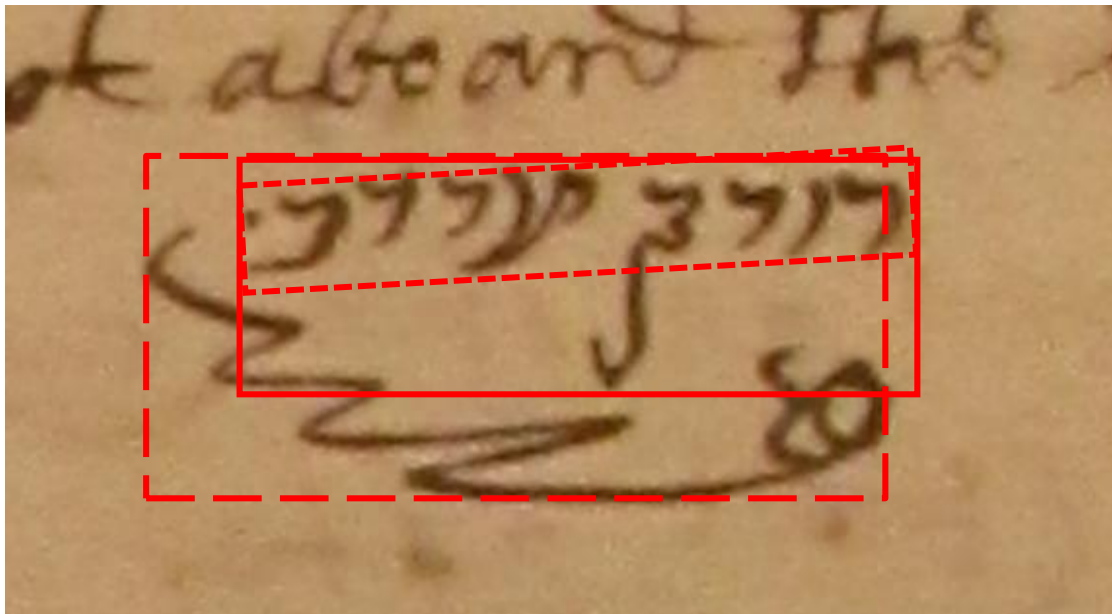
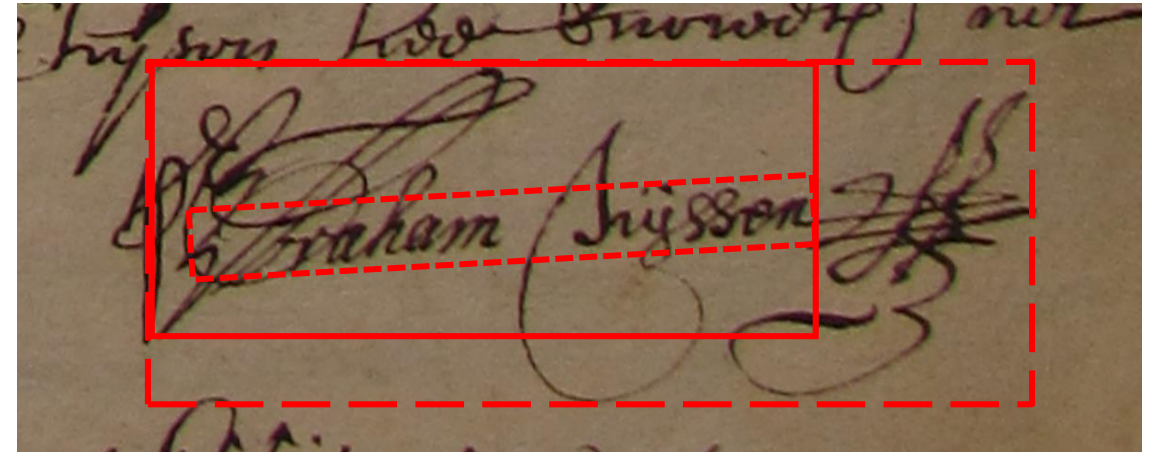
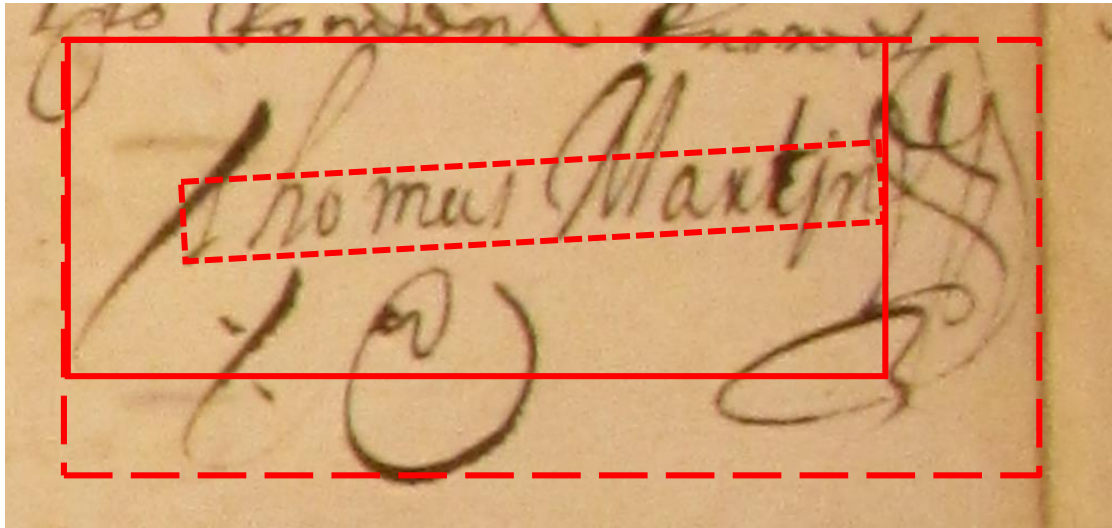
Outside boundary box: 12.75 x 5.75

Rotation from horizontal: ca. 340 degrees

Different visual geometries of signatures

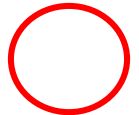
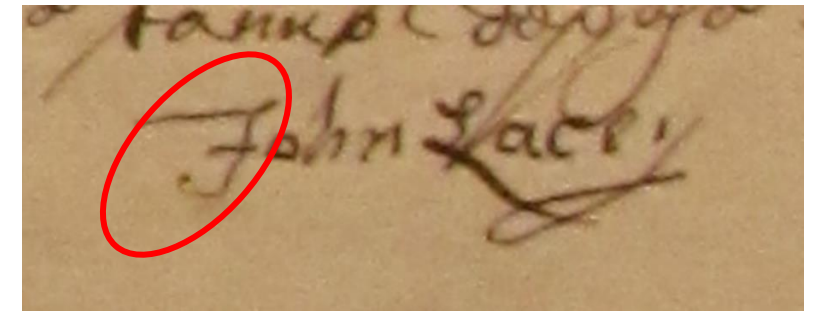
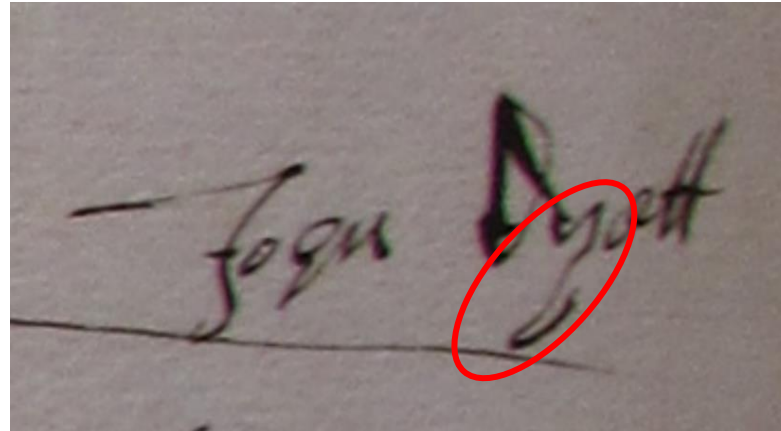
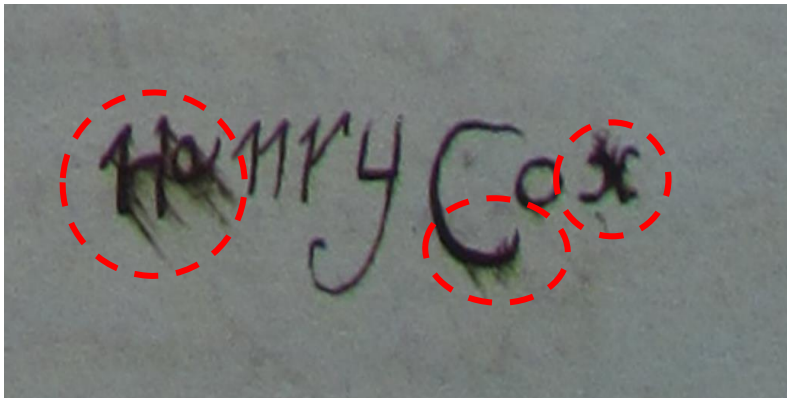
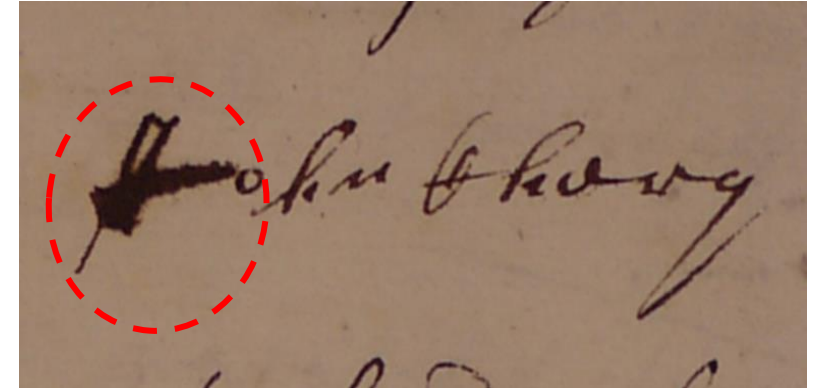
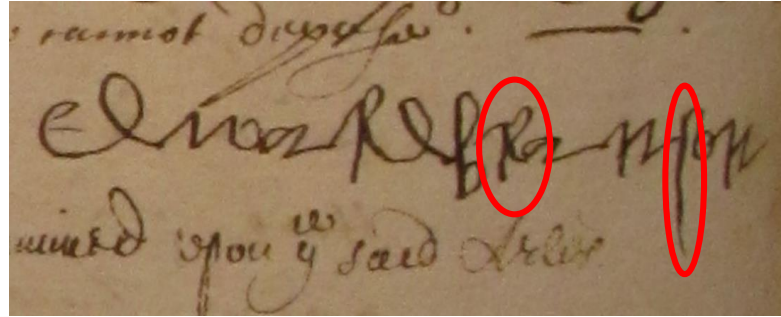
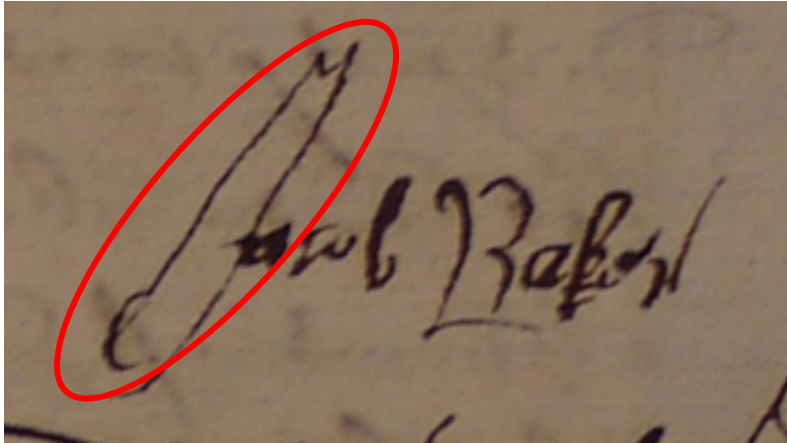


Visual geometries of flourishes – C17th Irish, Dutch, English & Moroccan merchants



Clockwise, from top LH: KaggleTestSnippet_HCA_1368_f.34v.PNG, KaggleTestSnippet_HCA_1370_f.366r.PNG, KaggleTestSnippet_HCA_1370_f.134r.PNG, KaggleTestSnippet_HCA_1368_f.58r.PNG

Physical characteristics of poorly executed signatures for machine detection



Shaky straight lines and/or loops



Ink blots or smudges

Clockwise, from top LH: KaggleTestSnippet_HCA_1371_f.263v.PNG, KaggleTestSnippet_HCA_1368_f.483v.PNG, KaggleTestSnippet_HCA_1371_f.456r.PNG, KaggleTestSnippet_HCA_1368_f.51v.PNG, KaggleTestSnippet_HCA_1370_f.168v.PNG, KaggleTestSnippet_HCA_1370_f.167r.PNG

Was it less common to use capital letters in Dutch rather than English language signatures in the C17th

Steven pieters

hijson twee snowen
Abraham Jijsson

hijde faving as aforesaid
Abraham Van Sinter
hem Lee 1689.

Bonwifd fannol dopsos.
Clavd & Albert
of October 1683.

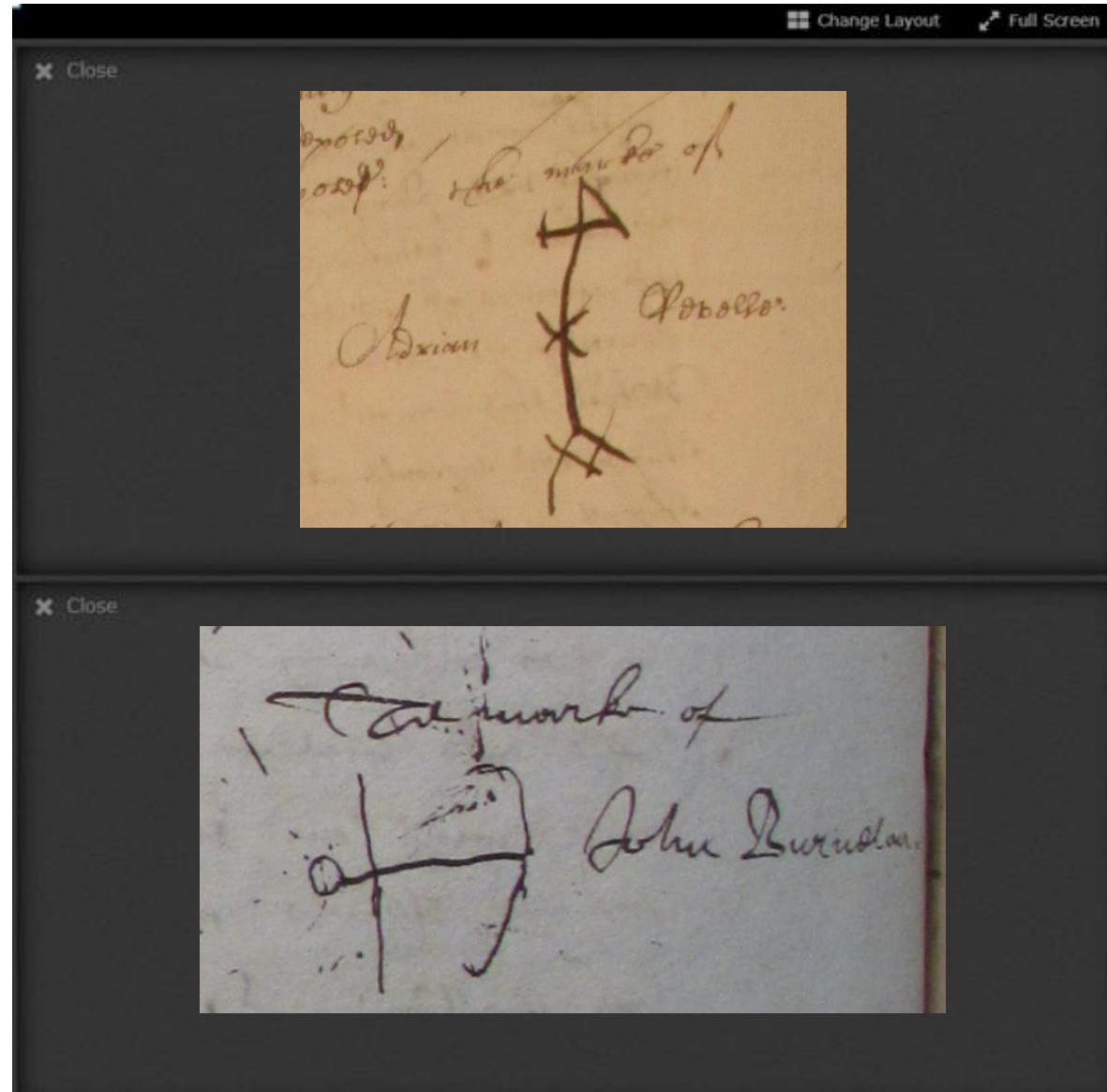
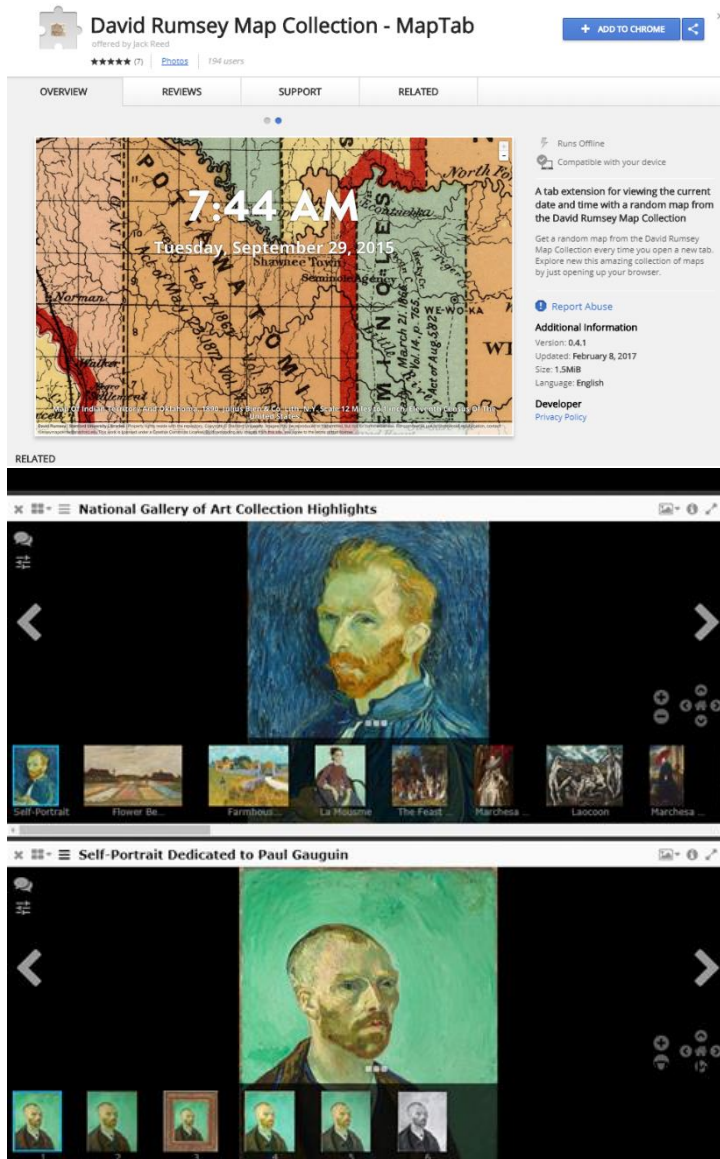
to state
living back slave

For the name another
Jan Bonbait
of October 1686.

to fannol dopsos.
Jacob Cornelisen Janghals

another having as aforesaid
cornelienus Janghals

Conjoint analysis IIIF viewer plugin



Adrian Revelle,
twenty-three year
old mariner, of
Dunquirke in
fflanders, November
12th, 1653; “hee
onely speaketh the
flemmish speech”
([HCA 13/68 f.183v](#))

John Burnelau,
twenty-eight year
old sailor, of Mornar,
France, March 30th,
1661 ([HCA 13/73
f.486v](#))

Reading

Colin Greenstreet, Pattern recognition of signatures and marks in historical manuscripts as the basis for sub-population recognition, March 2018 [available Signsofliteracy Github repository: [Signsoliteracy/Signoff](#)]

Colin Greenstreet, C17th alphabet of initials, 4th edn., April 4th, 2018 [available Signsofliteracy Github repository: [Signsoliteracy/Signoff](#)]

[Mark Hailwood, 'The Rabble that Cannot Read', Ordinary Peoples Literacy in Seventeenth-Century England, October 13th, 2014](#)

[David Cressy, Literacy and the Social Order: Reading & Writing in Tudor and Stuart England, 1980](#)