

# Talk script

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## Title Slide

I'm going to talk to you today about some fruits of my dissertation work, which was principally on the *Philosophical Transactions*, a journal published for centuries, in association with Charles II's Royal Society. The journal documents a great deal of history so I'm going to show you an old text that edited differently illuminates histories that we've previously not paid careful attention to.

I'll give you some citations as we go along.

## *An Account* slide

My talk begins with a mystery. In the *Philosophical Transactions* I came across this passage from May 1685: “*An Account of a sort of Sugar made of the Juice of the Maple, in Canada.*” It reads:

T<sup>2</sup>HE Savages of *Canada*, in the time that the Sap  
rifes, in the *Maple*, make an Incision in the Tree,  
by which it runs out ; and after they have evaporated

8 pounds of the liquor, there remains one pound[ ]as  
Sweet, and as much *Sugar*, as that which is got out of  
the Canes; Part of the same Sugar, is sent to be refined  
at Roven.

The Savages have practiced this Art, longer than any  
now living among them, can remember.

There is made with this *Sugar*, a very good Syrup [...]

And it goes on and on. But the bit that struck me, I'll zoom into.

## *An Account* narrowed

The Savages have practiced this art longer than any now living among them can remember. I was struck by the contrast of this sneer word, the s word here, and then the intimacy of living among them for a long enough period to believe that not remembering constituted proof of anything. I posed the question to myself, what can be known about this article?

## back to, *An Account* widened

A particular difficulty is that the article is not signed so we don't know the source. It's just this kind of report at the beginning of one of these numbered issues of the *Philosophical Transactions*.

For the Committee on Scholarly Editions in particular, I wonder about both the possibility and the appropriateness of editing. *Edit* is an eighteenth-century word partially back-formed from French and partially from Latin for bringing forth, publishing, producing, telling, relating, displaying, showing, and so forth. To edit here would be to prepare this text to be seen: by whom? And what could I add anyhow? This isn't an abridgment or extract of something else. It's just an unsigned brief report. There's not, within the tradition of this text, anything obvious to add.

One wonders too about the appropriateness of editing here, bringing forth *this* text. What event does the passage record? Does the text present an event reported by one person or several? More to the point: does the text report a crime or a friendship? Or possibly both? If so, is the criminal the same person as the friend, or are they two people? Or perhaps three? Two friends and a criminal? Or maybe three criminals and four friends?

In any case, there's something to be known about the history of the text here, so let's try a different angle.

## Chabot

Forensics---that which belongs to the Forum, in other words the law---shares similarities with editing. Modern forensics concerns itself with traces left by contact. In this case, I'm thinking of textual traces, but the basic principle is that two things that were once in contact often leave some sort of trace, one on the other.

The most state-of-the-art theories for forensics seem to concern newer objects of investigation: computers and their networks. This piece, "A complete formalized knowledge

representation model for advanced digital forensic timeline analysis,” expands how we might think about Lachmann and Maas's stemmatics. It's particularly useful because it's automated. The automation is not useful to me as such, because I'm not automating my process. But demanding that a theory be rigorous enough to be used in an computerized automation demands a rigor that *is* useful to me. To make a model or theory work with an unthinking computerized automation demands that it be, first, extremely well documented, second, widely applicable, and, third, thoroughly tested.

## Model

The article presents this basic model. Events, which you see in the upper left, occur in time and they involve objects and subjects, objects being things that do not act, subjects being people or entities who act during events. But all we have left, you and I, are what they call footprints or evidence. Time provides additional complications in this model because it is measured with different precision and subject to errors. In their case, computers might record logs to the second, or to the millisecond; in either case, the time stamps will be slightly off. In my case, we've got centuries, months, and other forms of uncertainty. But what is particularly *useful* to me in this model is this concept of footprints within imprecisely measured time.

The event occurs in time, involves objects and subjects, and those are remote from us. In their case, they're investigating possible computer crimes, but the model establishes a way they can stand aside and look at the footprints to establish a defensible chronology that a jury could understand. ## Allen algebra

To deal with time irregularities, they use this abstraction called an Allen algebra. It's a boolean algebra that allows comparisons of intervals for reasoning about imprecise timing, and which is studied enough to allow automation. Their problem is that there's some illicit, by which they mean illegal, event that occurred in the past and it must be attributed to some subject. So there's a file, it's illegal somehow, maybe it's defamatory, and they want to say "okay, you did this" and you may say "well I don't know how that file got on my computer."

Basically, this model makes it so they can say we've got a log file from your router, we've got one from the telephone company, we've got this illicit file from your computer, each incomplete and unreliable in different ways, but we can relate them using this algebra of intervals. So those intervals are just a very formalized version of causality.

## *x is Correlated*

They carefully define correlation for us. Their formal definition is that two events are correlated when they are linked together on the basis of multiple criteria. In particular: the use of common resources, participation of a common person or process, and the temporal position of events. So this is both necessary and sufficient: common resources---objects---common people---subjects---and the temporal position---one has to occur right before the other.

## *Relation of causality*

They refine this into a formal definition of causality, which might initially bug any careful reader of Aristotle:  $x$  causes  $e$  means that  $x$  has to happen to allow  $e$  to happen.

One might think, that's not causality. It has to happen for this other thing to happen, but doesn't that just mean the other thing could happen? A potential cause doesn't mean the thing happened. But, if you reflect on the model again, we only have footprints of objects and subjects, of events that did happen. The model doesn't apply to counterfactual reasoning and final causes require---as they typically do---a viewpoint from outside of time. We could talk about that in Q&A if you like.

But it's this model of causality which gives me purchase on my earlier problem. How did this article get here and can we trace the footprints that led to its placement in this numbered issue of the *Philosophical Transactions*?

## No. 171 and collation

Those of you familiar with bibliography will recognize the collational paragraph on the bottom of the screen for number one-hundred and seventy-one of the *Philosophical Transactions*, in which this article appears. At the beginning we have 2A2 and at the end 2F2. Those superscript 2s mean they're two single leaves folded like this. They're what's called a half-sheet of the quarto imposition scheme. This was normally done to economize standing type or to fit something in. So we have our first footprint: something strange is going on at the beginning and ending of this numbered issue in which this article appears.

Let's take a look

## No. 171 spread out

So the numbered issues were designed to spread out with the frontispiece on the left along with the title on the right, presumably so you could look at it and get excited about the contents and maybe buy a copy. Here we have this lovely urn with a face, but the bit I want you to notice is here.

## bis with arrow

The very first article is our account of a sort of sugar made from the juice of maple in Canada. If you turn the page,

## next page, three arrows

you can see the article on the left. Notice that the bottom is quite spaced out with a rule to support the sheet of paper on the press. On the recto, the next page, note that the date there is 22 December 1684. The date of this issue, however, is 1685 of May.

So we already know that time is loose. We can go backward a year with an article, which really doesn't help us figure out what's going on with this first one.

## next page, two arrows

We turn the page again and we see the end of this second article with another huge gap and rule. On the recto, we see 2B, those two *b* letters in the direction line, which tell us that we're at the beginning of the body proper.

The reason I point out these gaps is that they're both space filling techniques. The presence of which suggests that the printer needed something to stick in here, which points at a reason for printing this letter from 1684 in 1685 and also at our mystery letter. Let's look for more footprints. Where can we go for log file of the seventeenth-century's router?

## Birch's *History*

One place is Thomas Birch's history of the Royal Society of London, wherein he documents the minutes and events occurring in the meetings of the Royal Society. Here I have a page on the right which I'll zoom into.

## Zoom in, three arrows

Notice that on the top, we have that a discourse was read, in the middle we have a letter from Monsieur Henri Justel, and on the bottom we have a footnote saying the discourse was printed in the *Philosophical Transactions* number 170. Haha!

Our mystery article is in *Philosophical Transactions* number 171 and this account is in *Philosophical Transactions* number 170. We begin to have this Allen algebra like effect, where



we're triangulating the relationship between the different events of the footprints. This is in 18 February 1685, so let's look around.

## March 18 zoom

If we go forward, we find another footnote later referring to *Philosophical Transactions* 169 of 18 March, so we get this frame around our events. It's about forty pages that you can read very carefully if you'd like, but I've done the work for you, to eventually find this account:

## Mr. Aston slide

A recording of the events that occurred at the meeting of the Royal Society:

Mr. ASTON produced a large piece of brown sugar, delivered to him by Monf.

JUSTEL. It was said to be made by the savages of Canada, who at the time,

when the juice rises in the maple (l'erable) let it out, and evaporated it to an

eighth part; [...]

We see the same language as our mystery article. The reason I'm fairly sure it's Herni is that he left Louis the XIV's court in 1681 to be William III's librarian, which is what he's doing in London in 1685 with something that seems to be sent by New France colonists, a lump of Canadian sugar. This was March 2nd. More footprints.

## Microfilm

If you go back to the French National Archives, you can read this very famous account of the King advising the New French settlers on how to deal with the fact that they don't have enough people around.

## Translation

My rough translation is “to build the colony peacefully by ... civilizing the Algonquins, the Hurons, and the other Indians who embraced Christianity, and to dispose them to come and establish themselves in Community with the French, and to educate their children in our customs.” Now, this is 1666, so way earlier than the article we're reading.

## Population

And this moment has been studied, there are two wonderful articles: Yves Landry and Saliha Belmessous. The first one is on the left. I want you to see that we have a shocking rate of reproduction among the settlers, not entirely explained in 1993. Belmessous argues that, in fact, there's assimilation going on. Prior to about 1686 people were intermarrying and were building mixed families between settlers and First Nations people. So the New France settlers did not see themselves as opposing the people they lived among, they saw those as people who could be recruited. What, we might wonder, did those people seen as potential recruits by the settlers think?

## Savage slide

So, this gives us an interesting frame of footprints. In April 1666, we have these other *sauvage*, that is other wild people living with the presumably *sauvage* settlers. In February or March 1685 we have the savages of Canada and then we have May 1685, The Savages, big s. It's worth noting here the French word doesn't quite have the same sneer, it may be wild people or people who are not of the city, the *silvacatus*, the people of woods. Henry Oldenburg is the one who must have written our mystery piece based on his presence at the meeting and his job as the editor of the *Transaction*, where he needed to fill space. Knowing French, he probably thought nothing of reusing the word savage, which became capitalized. So there's an interesting question here. Someone who was a friend, perhaps family member, of a New France settler shared something that their family remembered, their people remembered. And somewhere along the way, it got a big s savage on it.

There's an interesting linguistic thing happening within these footprints allowing us to see the nature, although uncertain, of a kind of contribution made by someone in the spirit of community, but that turned into colonial extraction by 1685.

## Forward: *relation of causality*

Why the forensic model matters to me is this causality. X causes e means that x has to happen to allow e to happen.

In this case, we had some friend or family member present a lump of sugar, a physical object that we know moved, from what the settlers called New France all the way to London, and then eventually became this textual object.

Thank you.