

CHAPTER 12 - INTELLIGENT TOOLS FOR MANAGING FACTUAL ARGUMENTS

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By exploring practical questions in the context of a supremely impractical debate, this chapter seeks to highlight the challenges and opportunities faced by those trying to promote better use of intelligent tools in the legal workplace. It lays out design features for an imagined online argument manager and describes the knowledge engineering challenges such a system presents. In addition to reviewing theoretical characteristics of factual argumentation, this chapter considers what kinds of tools are or could be available for everyday use.

Introduction

There is nothing distinctively legal about factual argumentation, but it is nonetheless critical to most legal work. Lawyers and judges constantly engage in factual analysis, even if only on a background level. Most legal matters involve some disagreement over facts.

Before we can reach conclusions on ultimate issues like responsibility and ownership, we often have to settle questions of fact. Flawless legal conclusions premised on factual errors can wreak gross miscarriages of justice. And since factual arguments can be highly persuasive even when they are fundamentally unsound, the very cause of justice requires analytical sharpness.

A case in point - The Mysterious Mr. S.

Few writers have left behind a body of work that has engaged us as deeply as that of William Shakespeare. He is as close to a singularity as we have in world literary history.

It's odd and frustrating that we know so little about the actual person behind this name. There is a primary curiosity: Who was this person who wrote so memorably and movingly? What was he like? What did he really think? How much autobiography is encoded or reflected in the works? What learning and experiences were behind his accomplishments?

And there is a darker, secondary curiosity: Did the usual suspect in fact write the plays and poems that have come down to us as the "Works of William Shakespeare"? What if it was not the traditional man from Stratford? What if it was a *group* of people? A woman? If so, what was the rationale for pseudonymity? And how was it pulled off?

Brilliant people have bent their minds around these issues, from all sides and angles. It is a venerable debate that I find deeply fascinating. It can be maddeningly sophomoric, with much enthusiastic jumping to unwarranted conclusions and repetition of exploded fallacies. But there are also deliciously rich dimensions.

Many otherwise educated people are blissfully unaware of this controversy. Those who know of it often scoff at the idea. In some circles, simply to express openness to authorship alternatives is to declare oneself a fool or infidel.

Of course, this debate is of utterly no practical significance. Unless you believe in vindicating some uncredited writer who's looking down upon us from above. (And whoever he was saw fit to disguise himself pretty well, neglecting opportunities to leave behind better clues. This master of characterization and disguise deftly painted himself out of the picture.)

Nor is it of great literary or historical importance, belonging perhaps with questions like "Where was the historical Troy?," "Was Abraham Lincoln gay?," and "Who was Jack the Ripper?"

Nonetheless, it is a compelling who-done-it, a wonderful detective story. It's a great example of a complex

factual argument. And it's a useful foil against which to explore legal knowledge tool themes.

A personal journey

I've been intrigued (some might say obsessed) with the authorship question for a long time. It grows out of a life-long love of Shakespeare. I had read many, but never all, of the plays multiple times, and seen them performed. I gave a high school course on them as a student teacher. I grabbed every opportunity to see films based on the plays. I plodded through tomes like Harold Bloom's Shakespeare: The Invention of the Human, wincing with disappointment when that arch 'Bardolator' concluded that we can never hope to learn what our mutual hero really was like or thought. While attending a conference in Warwick in 2002 I made the obligatory pilgrimage to Stratford on Avon, standing in the 'birthplace' and believing for the moment that I was on sacred ground.

I had long been vaguely aware that the man from Stratford's authorship had been denied in favor of candidates like Francis Bacon, or even Queen Elizabeth, but filed such theories along with those by crackpots who believe, for instance, that the US moon landing was staged. Even though I knew that the Stratfordians were challenged not only by Baconians, but by Marlovians and Oxfordians, I especially perked up when a distinguished academic friend casually described himself as falling into the latter camp.

Then I made the mistake of borrowing a book called Alias Shakespeare from my local public library.

Here was an ostensibly respectable author laying out persuasive arguments in favor of an eccentric aristocrat (Edward de Vere, the 17th Earl of Oxford) as the true author. He presented a plausible narrative of pseudonymity that seemed at last to deliver a satisfying story behind the miraculous Works. He enlisted fellow anti-Stratfordians like Walt Whitman, Mark Twain, and Sigmund Freud, and reported on a vibrant scholarly tradition of Oxfordianism.

I read the book again. And again. It made sense. How could this be? How could this compelling explanation have eluded mainstream consciousness (or at least mine) for so long? Or had it in fact been thoroughly debunked by those who know better?

I ran the idea by various friends. Most reacted with bemused disinterest. Some turned out to be closet non-Stratfordians themselves. One responded with contempt and ridicule, as though I had hit a primal Anglo-Saxon nerve. This virulence was soon to be seen elsewhere. My new found confidence was shaken, and I felt compelled to dig deeper, beginning with the Web.

As you might expect, the Web is crawling with material on the authorship controversy. I learned that in some online circles, it is so inflammatory that it is regarded as "the forbidden topic." I found all kinds of arguments pro and con the various 'contenders' (an inappropriate term, of course, since the dead don't contend.)

At that point I realized I had no choice but to read the entire Works, trying to bear in mind the authorship question as I did so. Many happy moments in 2003 were spent working through 3400+ pages of small print in The Norton Shakespeare.

Along the way, I also read several dozen books that deal implicitly or explicitly with the authorship question, from all perspectives. (Well over 4000 such books were already in print by the middle of the 20th century.) My opinions and suspicions have fluctuated wildly. I read the collected plays of Christopher Marlowe to see if I could persuade myself that he had faked his death and went on to a nominally posthumous career under a more famous pen-name. (Nope). I sampled a wide variety of surrounding Elizabethan literature, read about the production of the King James Bible, re-read Homer and Ovid, and began working through the ancient Greek plays that seemed to be so influential on Shakespeare.

After finishing the collected works, I started reading a leading current dictionary of Shakespearian vocabulary word-for-word. (I had previously so read a more specialized dictionary, Eric Partridge's Shakespeare's

Bawdy.) Digesting an alphabetical array of Shakespeare's words, with illustrative quotes, is like going through shards of stained glass at a bombed out cathedral and trying to reconstruct the scenes the windows depicted.

Not to hide the ball, as of this writing I don't find any of the theories entirely persuasive, and have become almost as fascinated by the structure of the debate, which brings me to the present paper. If I were forced to make a bet, I would likely say that Oxford was indeed the primary author. Although Mr. Shakspeare¹ from Stratford might well have made creative contributions to the works, while also serving as the front man, he is unlikely to have been the genius we seek.

It comes down to which authorship narrative is less improbable. None are without their problems. But, in my view, to dismiss the authorship *question* today borders on intellectual dishonesty.

Sample theories

To set up the discussion below, let's review just a tiny sampling of the competing theories and proffered arguments. What person or persons actually put pen to paper in the creative efforts behind the plays and poems? Who *did* what when? Who *knew* what when? (Warning: here and in much of what follows I am not purporting to be rigorous. In fact, I'm being careless. My goal is merely to give you a flavor of the argument. Complete coverage of even one strand would be utterly impossible in a short paper.)

The mainstream view

A first thing to recognize is that the conventional narrative is largely a construction. Yes, there unquestionably was a William Shakspeare who was born and died in Stratford, 1564-1616. We know about his parents, marriage, children, real estate purchases, lawsuits, and last testament. And yes, he was almost certainly the same man who showed up as a theatrical businessman in London by the 1590s. Prefatory material in the initial collection of plays – the First Folio published in 1623 – implies that this man was the author. And the monument to him in a Stratford church pretty unambiguously takes the same position.

But – there is shockingly little other evidence supporting that conclusion, and lots of reasons to doubt it. We don't know how this man would have learned all that Shakespeare seems to have known, read all that Shakespeare clearly read, and written all that Shakespeare evidently wrote. Shakspeare probably attended his local grammar school, which offered a good education in Latin, but records are lost. He did not enroll in any university, and is not known to have traveled outside England. We don't know how or where he gained access to rare books, courtly and military life, aristocratic sports, legal nuances, or fine points of Italian culture.

Shakespeare the man was not paid much attention to for the century after his death, and when people began looking, the trail had gone cold. Basic demographics were soon established, but no manuscripts, books, letters, or other artistic materials could be located. Exhaustive mining of public records later yielded glimpses of commercial wheeling and dealing, but no literary life.

Despite the paucity of material, hundreds of thick biographies of the Bard have appeared, piling rumor upon conjecture, and inflating the whole thing with reckless imagination. Many are quite ridiculous, some are more responsible. A recent example of the latter is Stephen Greenblatt's Will in the World.

In a passage typical of this genre (p. 149), Greenblatt writes: "Then sometime in the mid-1580s (the precise date is not known), he tore himself from his family, left Stratford-upon-Avon, and made his way to London." The precise date?! It would be much closer to the truth to say that *we have no idea* what Shakspeare did in those years. There are some tantalizing clues and possibilities, such as the presence of a "William Shakeshaft" as a tutor in a Lancashire Catholic household, or a Stratfordian's enrollment in an army in the Netherlands. But exhaustive scholarly efforts have been unable to deliver reliable evidence of *any* experiences that might account for the prodigious learning and experience so manifest in the works. Genius alone can't explain it.

1 This was a common and phonetically accurate spelling of that man's name – first syllable other times written 'Shags,' 'Shacks,' or 'Shax.'

That of course does not mean that it didn't happen.

Reasons for doubt

More striking than the absence of confirming evidence are the many counterindications. Here are some of the leading objections to the traditional view.

They fall into two main categories: difficulties in squaring the Works with the known facts of Shakspeare's life, and remarkable linkages to known facts in the lives of other people.

The Author (whoever he or she was, or they were)

- Employs a vocabulary twice that of John Milton
- Had access to unpublished sources, and made use of books not yet translated into English or Latin
- Displays lots of inside knowledge about courtly life (vocabulary, contemporary intrigues) and upper class activities (falconry, archery, tennis, bowling ...)
- Shows a subtle knowledge of Italy, music, law, heraldry, horticulture, seamanship, and many esoteric subjects
- Evinces an aristocratic perspective (noble characters tend to be complex; commoners tend to be shallow, humorous, or mob-like; feudal values are emphasized over those of the emerging commercial class)
- Parodies powerful people, like Lord Burghley (Queen Elizabeth's right-hand man, evident model for Polonius in Hamlet)
- Comes across as an omni-sexual connoisseur, well versed in all manner of encounters, paid and unpaid

As noted, William Shakspeare of Stratford attended grammar school at most. His parents, wife, and children were marginally literate at best. He was married at age 18 to a woman eight years his senior, already pregnant, and had three children. He would have been in his late twenties at the time several major poems and a dozen plays had been written. He never once spelled his name "Shake-speare," the hyphenated form often used to refer to the author. His death in 1616 went largely unnoticed. His will referenced no books, instruments, or writings.

How a struggling actor could find time, energy, and illumination to write the voluminous Works in a pre-Starbucks, expensive-candles, word-processor-less world, is just part of the mystery. To add some incendiary points by Charlton Ogburn,

- There is no evidence that Shakspeare ever owned a book of any kind.
- We know of no occasion on which a man identified as Shakespeare *the writer* was present.
- We know of no communication, oral or written, to such a man. No commendatory lyrics by or about him were published in his lifetime.
- No one in Stratford who could have known Shakspeare or his descendants is ever reported to have described him as an actor *or* playwright.
- Every last scrap of paper that would have told us who Shakespeare actually was seems to have vanished.

A leading alternative candidate

Francis Bacon was for a while the leading candidate, but some fifty others have been put forth.² Today the best case seems to have been made for Edward de Vere, the 17th Earl of Oxford (1550 – 1604), who

- Came from an ancient lineage (William the Conqueror married a de Vere)
- Received degrees from Oxford and Cambridge
- Was a favorite of the Queen (for a while)
- Was an acclaimed athlete, musician, poet, and playwright

² See Mitchell 1996 for an even-handed review of the main choices.

- Was disgraced in various ways; slumped in theatres; owned a theatrical company
- Stopped writing under his own name around the time (1593) the first work published under the name Shakespeare appeared (*Venus and Adonis*, referred to in its dedication as the “first heir of my invention”)
- Had some 30 literary works dedicated to him

Oxfordians make the additional points that

- “Shakespeare” was referred to in the past tense several times after early 1600s
- None of the works are conclusively dateable to after 1603
- Pen names were employed by some nobles
- Oxford’s crest had an English lion shaking a broken lance
- A 1578 Latin dedication to Oxford used a phrase that can be translated into English as: “thy will shakes spears”
- He appears to have been nicknamed “Willie”
- After his death in 1604 King James had eight of the plays produced at court in his honor.

Biographical echoes

Each of the camps finds plentiful echoes of the lives of their candidates in the Works. For William Shakspeare, it is pointed out that he had a family friend and son named Hamnet, and that the plays contain references to local Warwickshire plants, customs, and leather working (his father’s trade.)

Greenblatt’s recent book takes an admittedly conjectural approach to linking the probable facts of Shakspeare’s life to the Author, emphasizing family and friend Catholic recusants as the reason for keeping a low profile, and, along with the deaths of father and son, as underlying a skeptical, pained attitude that resulted in the ‘strategic opacity’ and ‘excision of motive’ in the later plays.³

For Edward de Vere, it is noticed that he was a ward of Lord Burghley and married his daughter, that (prefiguring Hamlet) he was captured by pirates on the Channel, and had a trusted cousin by the name of Horatio. In a jealous fit over imagined infidelity he condemned his wife and refused to see her for several years. Many plots in the plays are uncannily map-able to known episodes in de Vere’s life.

The sonnets, likely written at least in part to the Earl of Southampton, another ward, who Burghley sought to marry to de Vere’s daughter, and dated by most to the early 1590s, describe an old man of high birth who had suffered some scandal, urging procreation upon a youth in whom he himself has a romantic interest. “When forty winters shall besiege thy brow” (2); “[my glass shows me] Beated and chopp’d with tann’d antiquity.” (62) Consider also the autumnal flavor of the late tragedies, with meditations on extreme old age and flawed patriarchy.

In 1592, Will Shakspeare was 28, de Vere 42. If traditional accounts are true, Shakspeare was a rising star of the London stage. De Vere had squandered most of his inheritance, wasted his world-class education, pissed off the Queen, hung out with thugs, and was accused of being a pedophile. By many accounts, he was quite a disreputable chap. Or at least a wanton voluptuary.

The sonnets also imply that their author needed to remain anonymous, but toy with the reader:

- “My name be buried where my body is” (72)

³ Will in the World reads as though no one had ever raised any authorship question. But in a Harvard Magazine (September-October 2004) article, Professor Greenblatt said that the process of writing a new Shakespeare biography “has made me respect that preposterous fantasy [alternative authorship] - if I may say so - rather more than when I began ... because I have now taken several years of hard work and 40 years of serious academic training to grapple with the difficulty of making the connections meaningful and compelling between the life of this writer and the works that he produced.” Unfortunately, in response to a letter to the editor in the next issue, Greenblatt reverted to derisive dismissiveness, asserting that Oxford could not possibly have been the author since many great plays were written after 1604 – a highly debatable conclusion largely built on the self-fulfilling dating of plays based on the life of Mr. Shakspeare! But now *I’m* being polemical ...

- “every word doth almost tell my name” (76)

The legal and Italian dimensions are particularly interesting.

Law

No lawyer can read the Works without noticing the frequent use of legal terms and concepts. They demonstrate both astonishing aptness and subtlety. Whole books have been written on their accuracy or lack thereof. My impression is that current scholarly consensus favors the former.

Shakespeare’s father was the bailiff of Stratford at one point, and both were involved in various legal transactions and lawsuits. There is a tradition that Will might have apprenticed as a law clerk, but no documents such a person would frequently have witnessed have ever come to light with his name on them, despite exhaustive search.

Edward de Vere was enrolled at the Inns of Court, underwent dramatic litigation over his legitimacy, and participated in many other suits and transactions.

Italy

Italian venues and themes likewise flood the Works. Scholars point to remarkable topographical exactitude, deep borrowings from the *commedia dell arte*, and seeming awareness of people and practices in contemporary Italy not known to have been available in publications.

Shakespeare is not believed ever to have traveled outside England or known Italian. But he may have been friends with linguist John Florio.

Edward de Vere traveled extensively in Italy, where he was a guest at aristocratic households. He spoke and read Italian.

Why and How (Theory of the case)

Supreme Court Justice John Paul Stevens, a declared Oxfordian, complained that advocates of that position lack “a single, coherent theory of the case.” Such a theory needs to answer why and how, among other things.

Why would de Vere disguise himself?

- Conduct unbecoming to a noble?
- Cover for controversy?
- Orders from the Queen? as paid Tudor propagandist? (“art made tongue-tied by authority”)
- Protect Southampton?
- Literary delight?

How could he have gotten away with it?

- Obscurity?
- Patronage?
- Bribery?
- The fog of time?

Debates like this go on forever because they can’t be definitively settled, and no one has the power or resources to bring them to a binding conclusion, unlike some legal disputes. It is possible but unlikely that significant new evidence will arise in the authorship debate. Until then, it is predominantly a matter of sorting through and interpreting existing material.

How technology could help

In the course of the above explorations, I found myself yearning for an organized, comprehensive summary of the facts and theories. Surely *someone* must have made it their business to marshal the better points on all sides

into an objective framework.

So far I haven't found such a thing. Some books and websites do better than others in dispassionately covering the theories. But none approach what seems possible with contemporary technology. The authorship debate community appears to be just as barren of intelligent argument management tools as the legal profession.

Suppose one wanted to construct an ideal environment for organizing the authorship claims. What might such a thing look like? It would probably be a shared resource accessible over the internet. It would be a complete and easily navigable argument space – one that is also personalizable and annotatable. It would be easy to use, and support a range of alternative viewpoints. Let's dub it a Simple Holistic Argument Kiosk, or SHAK.

What might such a kiosk do?

Keeping track

At the most basic, we would like conventional database functionality. Just keeping track – or keeping score – is helpful. Having places to put questions and open issues keeps them in front of us. We'd like to have an easily searchable compilation of

- what factual theories have been put forth
- what arguments have been made
- what points are established and disputed
- who asserted/rejected/refuted what when

The structured recording of such information would allow us to see quickly whether *anyone* seriously contests a given point, and efficiently be informed or reminded about established errors.

While the argument collection for our topic is being constructed, it would be handy to record questions, such as “Are there known examples of Elizabethan staged deaths, like that which some suppose happened in Marlowe's case?”

We'd clearly want to be able to lodge unknowns in the argument structure – things for which there is not yet evidence or plausible argument one way or the other. Just the fact that something *is* unknown is often important knowledge.

For any statement, we typically have a theory of what the utterer knew and intended. When William Basse wrote “He dyed in April 1616” regarding his poem about Spencer, Chaucer, and Beaumont making room in their tomb for Shakespeare, was he misled, deliberately contributing to a cover-up, or properly informed?

One would want the ability to lodge suggestions, observations, considerations, and other kinds of annotations anywhere anytime. And in a multi-user context, such annotations ought to be private or public at the option of the user.

A SHAK would need to store probabilities – how likely X is in Y's opinion – and support different perspectives. The ability to represent multiple inconsistent views simultaneously is critical.

Prompting us

Putting aside some intelligent moves discussed later, conventional software can certainly be useful in *eliciting* things from people and organizing them into useful frameworks.

For instance, a system could guide us to do things like

- tease out implicit assumptions, sub-assumptions, and open issues
- decompose compound assertions
- identify known exceptions and undermining points

- imagine plausible circumstances that *might* undermine a given proposition (from the infinity of potential negative assumptions that could theoretically undermine any positive statement)
- consider what kind of evidence would make a point stronger or weaker if it were found.

Showing us

Spatial metaphors are rampant in our argumentative thinking and talking. Graphical depiction of argument structures is one effective way of seeing wholes (and seeing holes). Chains of inferences can be presented in which established and contested points are differentiated by color.

The complex attack and support relations among points and positions present in any non-trivial argument cannot easily be expressed in a reasonably sized two-dimensional rendering, but sub-sets and sub-regions can often be.

It would be useful to be able to see the implications of accepting or rejecting a point by having that decision ripple up a line of reasoning. And to be able to apply filters that show and hide material in the SHAK based on who contributed them, whose point of view they represent, and what topics they deal with.

Thinking for us

To count as an “intelligent tool,” SHAK would need to do more than gather, store, and display information. It would preprocess and parse content in connection with its elicitation of human input, *suggest* gaps, conflicts, and ambiguities in an accruing argument repository. An intelligent argument manager would notice patterns, generate alternative narrative scenarios, and guide us through processes of thoughtful assessment.

Broader uses

The uses of systematic argument landscape mapping are many. Once a comprehensive and well structured argument framework was in place for a rich debate like the authorship controversy, all desired points could be assigned unique identifiers, and people could then tag external texts by the arguments explicitly or implicitly put forth in particular passages. You can imagine this being useful in a semantic web of Shakespeariana.

Legal applicability

One may reasonably ask how typical an argument the Shakespeare authorship debate is. Does it illustrate issues and features generally relevant to law? Is it representative of factual controversies in the legal domain?

I think so.

Some peculiarities of the authorship debate, such as literary stylometrics and what to make of double entendres, are not often encountered in other situations. But questions of identity, knowledge, and motive are standard fare in legal disputes. What did tobacco or pharmaceutical company executives know about their products? When? Who authored an incriminating email sent under a forged header? Which defendant wrote the ransom note?

Authorship, after all, is a kind of responsibility. Deciding who deserves ‘credit’ for literary works is analytically similar to deciding who deserves blame for some civil wrong or guilt for a criminal act.

And factual arguments in legal contexts often *are* as polemical, complicated, and maddening as those in the authorship debate.

So it’s fair to assume that an argument system built for contexts like the above would be straightforwardly useful for legal purposes. An online argument framework system like SHAK would, for example, find ready use by both parties and judges in actual litigation. Simply eliciting and organizing all claims, assertions, denials, and admissions in a common data structure permits rapid high-level overviews of the points in controversy. Case teams in law firms, law departments, and government agencies would find such a system

immensely useful for evaluating cases and planning litigation strategy.

Design considerations

Those who would build effective tools in this field quickly encounter challenges. Factual arguments present many interesting complexities.

There are both ontological and knowledge engineering challenges. How do we achieve expressive coherence in a shared argument space? What kinds of representations and reasoning are needed to intelligently suggest questions or notice patterns? Can we realistically express important arguments in a canonical form, to disambiguate, ease search, and enable automated reasoning?

Data complexity

Simple relational databases don't work well for capturing argument frameworks because many of their most important features are not effectively expressed in table structures. While balancing tests based on weighted multifactor analysis may be appropriate for local contexts, the overall posture of an argument involves more complex configurations of elements. Single points, for instance, can 'cut' different ways in different contexts, or in the hands of different arguers.

Complexity also arises from quantity. My guess is that there are on the order of ten thousand discrete factual points at play in the authorship debate.

Competing agendas

Arguments can serve two broad but competing goals: reaching knowledge and achieving persuasion. Truth seeking and opinion shaping are not typically both pursued at the same time. They involve different motives and vocabularies.

Often people honestly argue to know what the best position is. They want to accumulate points and considerations so that there can be progress, not repetition. Quarantining fallacious arguments can defang them and counter demagoguery. Debate can clarify differences, suggest places to *look* for evidence.

From the truth-seeking, investigatory, perspective, it's helpful to have sound argumentative bookkeeping. Tools can help us deal with the fact that, even when good faith is present all around, and even when people agree on the power of specific points and the soundness of local arguments, they may disagree about larger structures, combinations, and conclusions.

Achieving persuasion or rhetorical advantage involves different motives. As debaters we'd like to know "what points should we be prepared to parry?" A SHAK would be useful for defensive argument management by helping us not to make claims that can easily be rebutted. From an offensive posture, we'd like to engage in intelligent discovery of potential counterarguments and weak points. No one likes being blindsided or made a fool of.

Both kinds of argumentation deal with many of the same challenges, and can be served by similar tools. In both contexts it is useful to bound the arena of debate, and clear out argumentative underbrush when sub-branches can be pruned because higher level undercuts have been accepted.

Tools designed for rhetorical advantage may involve some features not needed for investigatory purposes: for example, guidance on what kinds and sequences of arguments are empirically most likely to be persuasive. But even when you are managing arguments for the sake of advocacy, when you are scoring debaters points rather than seeking truth, you are well advised to figure out what actually happened, or at least what one would be most justified in believing happened.

Facts vs. values vs. norms; time

Arguments about facts are usually distinguished from those about rules, norms, and values. They deal with

matters of what is (or was), with ontology, rather than aesthetics, politics, or ethics. They don't involve the deontic modalities of obligation, prohibition, and permission. Personal preferences and aversions don't – or at least shouldn't – enter into the conversation.

From a point-counterpoint modeling perspective, though, fact arguments are not that different from other kinds. There are almost always factual dimensions to policy and ethical arguments. And there are normative aspects *within* factual arguments, such as standards of proof and conventions of turn-taking.

Within the world of facts, the time dimension turns out not to make much of a difference. There are structural similarities in discussing what *has* happened, what *is* happening, and what *will* likely happen if X is done. Predictive arguments, in other words, are not that different from historical ones – what is likely *to* happen involves similar inferences to what is likely *to have happened*. Questions of tactics, strategy, and effectiveness (what works), of what “should” be done as a matter of practical efficacy, also belong in the factual camp, because ultimately they have to do with how the world works.

Messiness

Most factual argumentation is rather messy. That is, it is not straightforwardly reportable as the simple exchange of well-structured propositions and logical claims.

There is much performative, communicative activity going on when people argue, whether ostensibly for pure truth-seeking purposes or for opinion shaping. There is the Schadenfreude of seeing an opponent's argument implode. The use of various kinds of debate tricks. The politics of characterization, such as guilt by association and ad hominem attacks.

Most real-world arguments exhibit partisan tendencies to exaggerate, disregard nuance, and rely on shoddy intelligence. The Shakespeare authorship controversy, for instance, often displays an appallingly low quality of debate.

Arguments that something should be accepted because of who asserted it, or that something should be rejected because of the invalidity of something else said by its assertor (arguments from *lack* of authority?), deserve to be ferreted out and labeled as such. One way is to make their dubious premises explicit.

The allegedly improper motivations of someone offering an interpretative or analytical position are usually quite irrelevant. A common move by Stratfordians has been to assert that claims of aristocratic authorship are motivated by the snobbish view that only an upper-class person *could* have had the talent to be Shakespeare. And that to question the plausibility of someone from the gentry writing his works is to display class arrogance. On the other hand, a common move by anti-Stratfordians is to accuse academic defenders of snobbishly rejecting alternative viewpoints because ‘amateurs’ can't perform sound scholarship.

In complex arguments, even a single person's belief system often includes two alternative (and possibly incompatible) propositions supporting some other propositions, or just some open questions. What emerges are several internally consistent scenarios or theories, and one is left having to judge their respective plausibility. Often this takes the form of dueling generalizations.

Process and state

One challenge-reducing aspect of a project like SHAK is that it need not deal with the *procedural* aspects of argumentation. The focus is on the argument's declarative aspects, its synchronic rather than its diachronic dimensions. We need not model the history of the ‘game’ or the rules by which it is ‘played’ to have a useful account of its current state. From a practical point of view, even if multiple parties are permitted to add and edit content, an appointed Keeper of the Frame or ShakMaster can resolve discrepancies about what is allowed to go where.

Pointillism

One minimal feature of any SHAK would be a clear representation of points and their relations. We expect a lucid depiction of “point space.”

Varieties and properties of points

For maximal expressive power, it would seem that a SHAK would encourage and support high specificity and granularity in the points expressed. Perfect atomicity may not be achievable, but there should be means to distinguish *simple* from *compound*.

The likelihood of a statement being true, or the degree of confidence we should have in it, can depend on the specificity of a point. We can assert propositions about properties of the Author that stop short of his identity, such as “The Author was a native-born Englishman.”

There are freestanding points as well as those that consist in supporting or pointing out some defect in another point. Explanations are one kind of supporting argument. (“X did Y because a and b ...”)

Whether a point is controverted or accepted should be separately recordable for each person or perspective whose views are represented in the system.

Aboutness

An effective point management system needs to be particularly good at modeling *aboutness* – what an argument is about, what a particular point is about. The date or period referred to, and the people or objects involved, are elementary subjects naturally tracked. But often the subject of a point can and should be specified at a much more subtle level.

Some points have as their referents postulated circumstances in a real world, while others are about other points. Some make statements about an object world and some about the point world.

And when a point is contested, it’s important to be precise as to what *about* that point is contested. The very subject tags (who, when) can be in contention.

The subjects of discourse in factual argumentation include states and events of the physical world, but more often human actions, especially speech acts. They include epistemological states such as knowledge and intent.

Interpoint logic

Mapping the support and attack relationships among argument points involves a different level or layer of representation.

A single given fact can be used both to support and undermine a proposition, typically through intermediate assertions. Likewise, different combinations of accepted points can be claimed to justify the same given conclusion.

Given a collection of points, and specified reasoning techniques, it should be possible to automate cascades of inferences. Some of those techniques will involve stock arguments, or argument patterns, such as that certain kinds of conclusions can be drawn from the absence of evidence, or from someone’s failure to act (like no one going after the many pirated works and misattributions in Shakespeare’s case).

As a manager or user of an online argument facility, one will be called upon not only to take a position on specific points, but on general principles of reasoning, such as how much weight to accord a particular kind of factor.

Tools in use or on the way

Contemporary legal practice

My informal impression, based on years of observing practitioners and keeping up with the legal tech trade literature, is that very few lawyers use *any* significant technology to help them organize arguments. The most common tools remain yellow pads and word processors.

Some litigators use specialized outliners like GrandView, Ecco, and NoteMap to organize their trial planning. And some take advantage of evidence-organizing features in litigation support products, like Summation (<http://www.summation.com>). Summation's Case Organizer gives you the ability to place case data (transcribed testimony, document records, images, etc.) and your own comments into an outline-style staging area. Similar features can be found in case management products like Time Matters, recently acquired by LexisNexis.

Custom applications

I've set forth several times to build element/evidence/argument analyzers, which long ago struck me as obvious tools that lawyers should find handy. The idea of using software to elicit the claims and counterclaims involved in a dispute, specify their logical elements, and link those elements to actual and potential evidence pro and con, is an old one.

One law firm engaged my company to build a custom trial planner application using CAPS. They wanted a shared repository of analysis, issues, evidence, and notes for teams of lawyers and paralegals involved in complex litigation. Rather than passing around versions of a Word document only one person could edit at a time, they requested an easily navigable, multi-user framework. Such an application was successfully deployed. But I was astonished there hadn't been a ready to hand commercial alternative. Some colleagues and I invested a great deal of time in the mid 1990s plotting (but not pursuing) a robust generic application along these lines.

CaseMap

The best example of successful software offering some of the features we seek is CaseMap, from CaseSoft (later acquired by LexisNexis). CaseMap is now the leading commercial software package for case analysis and litigation strategy. It greatly eases the job of recording and manipulating the facts, entities, and issues involved in a case. Tens of thousands of law offices and government agencies – from solo practitioners to the ninety-plus United States Attorneys' Offices – have been licensed.

You can think of CaseMap as a special purpose spreadsheet or database, with preconfigured structures for entities, relationships, and operations commonly encountered in the litigation context. It makes it easy to compile witness lists and chronologies, and to cross-correlate pieces of evidence with issues. It anticipates and solves many practical issues encountered in computer-aided case analysis, such as handling inexact dates and date ranges, and producing nicely formatted summaries of issues, players, and facts for clients to review.

CaseSoft has made an admirable contribution not just in the form of tools, but in the form of methods and education. It regularly publishes useful articles on case analysis and brainstorming. Its installed base of enthusiastic users ensures that the product and associated methods continue to evolve.

I used CaseMap early on to help me understand the authorship issue, using it to manage a list of "objects" (people, places, things) and to display an annotated timeline of key events, using the companion TimeMap software.

As useful as CaseMap is, it lacks some key features I would see as necessary in SHAK. CaseMap has few tools for mapping complex relationships among arguments, does not run on the Web, performs no logical calculations, and includes no reports to show chains of reasoning, let alone graphical displays of claim

networks.

Knowledge mappers

At least two striking products venture into areas largely untouched by previous commercial legal technologies. They both offer promising applicability to factual argument management.

Attenex Patterns

Attenex Corporation (www.attenex.com, pronounced ah-TEN-ex) focuses on achieving a tenfold increase in productivity in document-intensive processes in the legal profession. Its Patterns product uses natural language processing, computational linguistics, latent semantic analysis, and information visualization techniques to enable such productivity. Chief Technology Officer Skip Walter talked about “documents that describe themselves and find their friends.” Patterns has largely been applied in the burgeoning ediscovery world, but has remarkable promise for automated pattern recognition and rich visualization in other contexts, like fraud detection in financial transactions and social network mapping based on email repositories.

I suspect that Patterns might yield interesting results if its text analysis utilities were applied against Shakespeare’s works and extant writings by the various proposed authors – one could compare the resulting conceptual fingerprints. But it also could be a handy tool for mapping and navigating through the voluminous materials and arguments *about* authorship. Just as litigation paralegals can use it to quickly mark documents as relevant/irrelevant or privileged workproduct, amateur (and professional) literary historians might use Patterns to sort through and characterize points favoring different authorship theories. Then when one wanted to see, e.g., all of the best points in favor of, say, Sir Walter Raleigh, those could instantly be highlighted in color, while still displayed in their natural conceptual contexts.

LawSaurus

Minnesota-based Pritchard Law Webs is developing an innovative product called LawSaurus, described as “a thesaurus-based authoring, editing, and publishing environment for polyhierarchically organized networks of related information.” Its initial application context is a legal information portal (www.LawMoose.com), where online resources about law and lawyers can be linked to terms in a rich taxonomy, but it offers a stunningly generic architecture for any information management problem that can be expressed relationally.

A SHAK-like environment using LawSaurus could exploit its ability to build free-form networks of nodes and links. By defining relations both generic to argumentation (this point is supported/undermined by that point, accepted/rejected by that person, ...) and specific to the authorship controversies (this person knew that person, this work seems to have used that work as source, ...) one could code a rich array of information to associatively browse and annotate.

So far as I know, Pritchard does not intend to implement automated analysis of LawSaurus networks, but they would seem straightforwardly processable into data structures that *could* be mined for telltale patterns and used as fodder for reasoning.

SHAKy conclusions

Is the idea of a fair and open argument space a rationalist illusion? For most important questions, aren’t there just too many rhetorical and analytical twists to contain? Can IT and AI really help us better manage that complexity? I’m convinced they can.

We survived an election in the United States where an administration was re-elected in part by exploiting the right-wing pseudopopulism that was on the rise. That movement ironically mirrored aspects of the Islamic extremism it condemned. The arguments behind these world-threatening ideologies of course have not been primarily factual ones. But there and elsewhere the paucity of tools shapes the landscape of behavior. The lack of good argument management technology advantages those who are more rhetorically adept (or unprincipled, ruthless, Machiavellian).

Most legal (and literary-historical) controversies aren't quite so apocalyptic. And let's face it – if arguments were totally fair, they wouldn't be nearly as much fun. But we can also have fun while fairly discussing serious issues.

Who wrote Shakespeare? I still don't know. I'd feel more comfortable in my ignorance if I could reliably access the best thinking on all facets of that controversy in a comprehensive framework. But what I'd *really* like is to see tools of that sort used regularly for law's purposes on today's world stage.

Epilogue

While the original version of this paper was undergoing last revisions I finally read Alan Nelson's recent biography of de Vere. This sober tour through the documentary evidence and surrounding events doesn't help Oxfordians. The 17th Earl's many surviving letters and reports by contemporaries depict a self-obsessed, venal hooligan. His attributed poems are mediocre, his degrees apparently titular. Once in a great while there is a vaguely Shakespearian cadence in his correspondence, and there remain many eerie biographical resonances with the Works. I can accept that great artists can be awful people, and that transcendent artistry can coexist with buffoonery and banality (consider Mozart or Sinatra). But de Vere's authorship now strained my credulity as much as Mr. Shakspeare's. At least until I read Mark Anderson's *Shakespeare by Another Name*, which makes a good case for Oxford ...

Going Deeper

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