

were innovative in a number of ways, and Butler persuasively argues that these innovations — the relative structural looseness of the masques, the immediate printing of the masque texts, and the reinvention of masques as ‘triumphs’ — served a new political agenda. They helped to define and polarize political factions in the later reign as Charles’s glorious and triumphant masques became more obviously distanced from his increasingly rigid and inflexible political identity.

Admittedly outside Butler’s scope in this book are masques and entertainments performed away from the court space. The gap is a discernable one, since Butler concludes the book with a suggestive discussion of the extent to which Milton’s *Masque Presented at Ludlow Castle* (1634) ‘was constituted in telling ways against the Whitehall masques’ (353). This conclusion hints at an entire dimension of masques and entertainments occurring outside the centre, and a consideration of this element in relation to the court masques could certainly have enriched the study. Butler addresses this limitation, noting that James Knowles’s forthcoming book will explore festival culture occurring in the provinces and great houses. Appended to the book is an exceptionally useful and detailed annals of masques and entertainments that includes great-house theatricals as well as court entertainments. Butler’s book is a valuable and elegant contribution to the study of the Stuart court masque and will be integral to the reassessment of its complexly political nature.

KIRSTEN A. INGLIS

**Hugh Craig and Arthur F. Kinney (eds). *Shakespeare, Computers, and the Mystery of Authorship*. Cambridge: Cambridge UP, 2009. Pp 234.**

The title of Hugh Craig and Arthur F. Kinney’s new collection deliberately juxtaposes two concepts often still considered incompatible. Can ‘computers’, with their binary and uncritical approach, really provide insight into ‘the mystery of authorship’? Craig and Kinney’s neurologically-informed introduction suggests that creativity depends on a necessarily limited series of patterns within the seemingly infinite human brain. Linguistic computing depends on the belief that some of these patterns and habits of mind can be identified and extrapolated using machines, allowing us to uncover a dis-

tinctive 'authorial signature' (12) even within relatively small sections of text. Despite growing critical interest in the early modern theatre as a fundamentally collaborative and discursive environment, this volume is concerned with 'disintegration', the breaking up of collaborative texts to ascertain exactly which words were written by which author, with the implied ultimate aim of identifying the specific words that originated in Shakespeare's mind. As plays such as *Double Falsehood*, *Thomas More*, and *Edward III* progress to canonical status in the early twenty-first century, anxiety over the exact nature of 'Shakespeare' persists, and this volume offers a timely investigation into the most contested areas of Shakespearean authorship.

Craig and Kinney's methodology is deceptively simple, based on word choice rather than collocations or literary style. 'While an author can always extend his or her range of active words — almost every new work introduces some new words — the strong tendency always is to revert to familiar and customary word usage' (198–9), they suggest. The processes they utilize are thus as objective as possible, involving the literal counting of occurrences of selected words while allowing for spelling and usage variants. Where many other studies rely on a single methodology Craig and Kinney's team utilize two independent test strands in order to verify conclusions. The first series of tests examines lexical words. The team takes the two bodies of work for comparison, for example comparing Marlowe's plays against Shakespeare's plays, and generates lists of the 500 words most characteristic of each set relative to the other. This list of 1000 words is then applied to the disputed text and its likeness to the two test sets evaluated. As the authors point out (66), the strength of this test is that it reduces the dangers of identifying only imitation or commonplace words by selecting those words that are not most frequent *in total* but *relatively* most frequent and thus more unique to the test sample. The second series of tests looks at function words, theoretically a relatively subconscious element in writing. Again, the team identifies the function words most specific to individual authors before considering their frequency in disputed texts. They take great care throughout to standardize sample sizes and ensure that texts are compared on an equal basis, and throughout emphasize that the results merely show greater or lesser levels of probability: there is, and will always be, room for doubt.

Critics sceptical of the effectiveness of such methods are answered by rigorous control-testing at all stages against known samples of text. Only once the team has established a strong identifying set of criteria do they apply the tests

to disputed texts. One of the collection's most important and incontestable achievements is its demonstration of consistency of word choice in the works of specific authors, especially Shakespeare. A summary of the results will be of primary interest to scholars. Shakespeare is confirmed as the author of Hand D of *Thomas More* and the Countess scenes of *Edward III*, and the reviser of his own *King Lear* in the Folio version. More controversially, the team also grants Shakespeare the middle section of *Arden of Faversham* and the 1602 additions to *The Spanish Tragedy* usually attributed to Jonson. Marlowe is Shakespeare's key collaborator on *1 and 2 Henry VI*, writing the scenes involving Joan of Arc and Jack Cade; and the volume further asserts that the remainder of *Edward III* and *Edmond Ironside* bear little resemblance to the works of any known dramatist, in the case of the former convincingly rebutting recent arguments in favor of Marlowe and Kyd.

The results, presented in easily interpretable graphs, are persuasive on paper but are not beyond question. Craig and Kinney pride themselves on transparency; yet they offer surprisingly little of their intermediate data for the benefit of critics hoping to reproduce their results. Why, for example, do the authors supply no appendix detailing the lists of characteristic lexical words used to differentiate authors? Without these lists, the reader is obliged to trust that the lists generated for each test do indeed represent the most characteristic words of each author without being affected by local anomalies such as subject matter. A link to an online resource with full tabulations, raw data and search criteria would be the next logical step in affirming these results. The choice of plays that make up their test corpus also raises questions: why is *The Taming of the Shrew*, for example, dismissed from tests as being of 'disputed authorship' (218)? Why are only 112 of the '174 surviving well-attributed single-author plays' (xvii) from the period used for comparison? These questions do not invalidate the volume's results, but the inquiring scholar will wish to exhaust all possible variations in the test parameters before accepting its conclusions.

Several texts also require more rigorous testing. In the case of *The Spanish Tragedy* the authors only present evidence that the lexical word test favors Shakespeare over Jonson, Webster, or Dekker individually. Craig claims that function word tests support this conclusion, but the results are not shown. A lexical word test measuring Shakespeare against the collected corpus of all other dramatists for the time places the additions in *non-Shakespeare* territory. This result is passed over as an aberration; yet this 'all-comers' test is the bedrock of other chapters such as those on *Henry VI*,

*Edward III* and *Thomas More*. The results they present are thus suggestive but severely limited, and again the reader wishes for an exhaustive series of tests comparing every possible combination of dramatists in order to demonstrate that the data continues to support the authors' conclusions as widely as possible. The authors thoroughly examine the external evidence pointing towards Jonson as the writer of the additions to *The Spanish Tragedy* to show an element of doubt in the attribution, but make no attempt to account for how or why Shakespeare might be writing additions for a Henslowe play at the Rose in the late 1590s/early 1600s. Their decision simply to present linguistic data for other scholars to interpret is commendable, but only serves to reinforce the divide between literary criticism and linguistic computing that too often leads the former to ignore the latter's work. Hugh Craig's chapter on *Henry VI* is more successful in this regard, supporting his evidence for Marlowe's hand with a consideration of Joan and Cade as Marlovian, rather than Shakespearean, villains: their low birth, their high ambition and 'native wit and daring' (67) relate them especially to Tamburlaine.

The volume grants very little space to this kind of literary criticism, with chapters given over instead to attribution history and the team's tests. The attribution histories usefully contextualize and provide precedents for the team's results drawn from literary criteria, particularly the early twentieth-century trend for parallel passages. Timothy Irish Watt's chapters on *Edward III* and *Thomas More*, though, are surprisingly error-ridden, twice rechristening C.F. Tucker Brooke 'G.F.' (119) and misrepresenting other scholars' work. In a volume so dependent on accuracy and attentiveness to detail such slips are discouraging. Any work of this nature must be scrutinized thoroughly for flaws and potential holes; these difficulties, however, should not detract from a volume that intervenes importantly in Shakespearean authorship disputes. Craig and Kinney establish a standard of statistical rigor that all scholars in the field should aspire to. The use of dual, independent tests to verify results; the objective presentation of data; and the unbiased investment in whether or not Shakespeare wrote a particular text are all essential if computational methods are to be accepted by the literary community. The results presented here are compelling; if the authors are willing to make the rest of their data public and if exhaustive tests can be run to ensure that the results remain equally convincing in every comparison of possible authors, then this volume may well be pivotal in forcing scholars to take seriously the claims of *Arden*

of *Faversham* to Shakespearean authorship as well as opening *The Spanish Tragedy* and the *Henry VI* plays to renewed scrutiny.

PETER KIRWAN

**Christa Knellworth King. *Faustus and the Promises of the New Science, c. 1580–1730*. Farnham, Surrey: Ashgate, 2008. Pp 216.**

In this study Christa Knellworth King attempts the very intriguing project of tracing the significance of the Faustus myth from the chapbook sources for Christopher Marlowe's *Doctor Faustus* to the debased versions of the tale in the farces and harlequinades of the early eighteenth century. The various texts covered will be of great interest to anyone interested in the ideological transformation of the myth in question. However, the relation of this narrative to the emergence of scientific thought and practice in western culture — that is, to the 'promises' indicated in the second half of King's title — remains finally a rather vexed question, partly (perhaps) because the relation between magic and science remains so vexing historically.

What is always clear to the reader is enunciated pointedly at the end of the study: 'the creative energy that radiates from the depiction of Faustus' adventures suggests that all versions discussed here were on the side of Faustus, even if the arguments in his favour are expressed in parallel with those of the prophet of doom' (186). From the chapbooks on, King argues persuasively for a sympathetic reading of the hero's aspirations; the 'subversive' meaning consistently stands out even when the 'ostensible purpose' is 'a cautionary tale' (184). In addition to this persistent demystification, King's argument heightens critical interest by showing how 'the Faustus narrative ... turns into a study of human attempts to deal with responsibility and moral self-determination' (185). I was particularly intrigued by King's suggestion that the comedy of the later, farcical versions of Faustus is not simply gratuitous since such versions 'celebrate the protean hero whose elusive appearance guarantees his success in an upwardly mobile society, which is to say he illustrates the aspirations of his period's increasingly powerful middle classes' (168). To increase a sense of critical continuity, this aspect of King's argument might be linked more closely to Marlowe's own hero, born 'base of stock' but hugely