

Copernicus or Cheesecake? Faultlines and Unjust Des(s)erts: Notes towards the Cultural Significance of the Virtuosa

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ABSTRACT

In this paper I propose to offer a general interpretation of the cultural significance of the "virtuosa", a satirical female comic type which appeared in post-Restoration British literature. In order to achieve this I shall use (appropriate) Baudrillard's notion of the simulacrum, some aspects of feminism, Althusser, Greenblatt's containment theory and cultural materialism to argue that the virtuosa may serve as a useful post-structuralist allegory for the way in which stereotyping processes mythologize women. This relates to the way in which patriarchal power structures may be expressed in literary form: that is, how misogyny rejuvenates itself. The suggestion here is that in the satirical image of the experimental virtuosa misogyny undergoes a significant literary transformation: with the aid of contemporary science, the mythologizing of women as an intellectually inferior domestic being reaches a new level of perfection. (KEYWORDS: virtuosos/a, experimental science, satire, feminism, cultural materialism, containment theory, post-structuralism, simulacrum).

RESUMEN

En este artículo quisiera ofrecer una interpretación general del significado cultural del tipo cómico satírico femenino, "la virtuosa", que apareció en la literatura británica después de la Restauración. Para lograrlo utilizaré (apropiándome de), la idea de simulacro de Baudrillard, algunos aspectos del feminismo, Althusser, "containment theory" de Greenblatt y materialismo cultural a fin de discutir si la "virtuosa" puede servir como alegoría post-estructural para demostrar la forma en que los procesos de estereotipación han mitificado a la mujer. Esto está relacionado con la manera en que las estructuras patriarcales pueden estar expresadas en las estructuras literarias: es decir, como la misoginia se rejuvenece. Lo que aquí se sugiere es que

en la imagen satírica de la "virtuosa", la misoginia sufre una importante transformación literaria: con la ayuda de la ciencia contemporánea, la dudosa construcción de la mujer como un ser doméstico intelectualmente inferior llega a un nuevo nivel de perfección. (PALABRAS CLAVE: virtuoso/a, ciencia experimental, sátira, feminismo, materialismo cultural, "containment theory", post-estructuralismo, simulacro).

PROLOGUE

At the limits of an ever more forceful extermination of references and finalities, of a loss of semblances and designators, we find the digital, programmatic sign, which has a purely *tactical* value, at the intersection of other signals... and which has the structure of a micro-molecular code of command and control.
Baudrillard (1993: 57)

As outlined in the abstract, in this paper I offer a general interpretation of the cultural significance of the "virtuosa", a satirical female comic type which appeared in post-Restoration British literature. Rather than study the relationships between the comic type and changes in scientific thinking, I shall attempt, following Josephine Donovan's suggestion in "Beyond the Net", "to determine the degree to which sexist ideology controls text(s)" (1977:42) while offering some interpretations of the material which are guided by what Kate Millet has called "the larger cultural context in which literature is conceived and produced" (1977:xii).

A CURTAIN RAISER

In the introduction to his book, *Science and Change 1500-1700* (1971:7), Hugh Kearney makes the following statement:

The Scientific Revolution of the sixteenth and seventeenth centuries is now generally recognised as a decisive turning point in world history. It has taken its place in the judgement of most historians beside such movements as the Renaissance and Reformation, from which indeed it cannot be entirely dissociated. The innovations which it introduced are seen as a major cause of the transition from traditional modes of thinking, in which authority was accepted as natural and desirable, to "modernity", in which critical assessment of all assumptions is encouraged as an essential part of maturity.

Here, then, is a book outlining a decisive turning point in world history to rival the European Renaissance and Reformation, yet it will probably come as no surprise to many feminist scholars that Kearney's index of names includes not a single reference to a woman. The lack of women in Kearney's book can be seen as emblematic: Kearney represents the Scientific Revolution as a "major cause of the transition from traditional modes of thinking" to "modernity" where assumptions were to be subjected to scrutiny. What is significant to the essay that follows is that traditional modes of thinking included the idea that "authority was accepted as natural and desirable" - a phrase which goes a long way to explaining why Kearney's index is so full of Galileos, Isaacs, Johannes and Francises at the expense of Margarets, Marls, Annes and

Elizabeths.

Reading Kearney's book was one of my first contacts with the history of science, and it struck me immediately that women seemed to have been excluded from the tradition. When I came to explore how seventeenth-century satire reflected changes in scientific thinking and methodology I stumbled on the virtuosa as a satiric vehicle for attacking false learning. It was in this context that I discovered the virtuosa, its female counterpart. This led me to ask myself (perhaps naively) if women really had been part of the institutional development of science in the seventeenth century. Had Kearney done women a disservice, or had they, as I suspected, been discouraged and excluded? This paper has grown out of these simple questions, and, for many readers, the answers will hardly be surprising. However, I hope that some of the material I have dug up and some ideas and interpretations I develop around these questions will prove to be of interest, especially as my research has led me to revive material that is rarely brought to light.

Act One: Serious upon Trifles?

Before I go on, I would like to say something about how this article fits into the general theme of the journal: the idea of "unofficial knowledge(s)". I shall be exploring in these pages not so much a form of unofficial knowledge but the historical production of forms of knowledge - in this case the context of the production of forms of knowledge which would, in Foucault's terms, result in the dominant (official) *epistemes* of Western thinking: the discourses which would coalesce into the rational-empirical, scientific basis and order of knowledge (Foucault, 1970). Knowledge, then, is understood as the product of intellectual attempts to gain understanding about the world, or attempts to found belief on rational-empirical systems able to produce reliable and verifiable facts or data. The "unofficial" component comes in the shape of gender: that is, as many feminist (and pre feminist) scholars have made clear, Western European canons of knowledge have historically been based on the exclusion of women. If women have occupied a space, it has been exceptional, marginal, or even unofficial. This is the case of the knowledge-producing institution I shall be concerned with here. The historical exclusion of women from the development of scientific institutions of knowledge has, more often than not, rendered them "unofficial" (even recreant) producers of knowledge.

The unofficial character of knowledge produced by women is a theme too large to be explored in an article of this length, so I shall explore one small strand: the virtuosa, the satirical figure of the female experimental scientist in relation to the ideological repression of the production of knowledge on the grounds of gender. In exploring how far women were able to participate in the production of knowledge is full of pitfalls, and it is easy to fall into vagueness and oversimplifications. For this reason I want to start with a general observation. I want to emphasize that I am *not* claiming that women were coerced into such profound silence that they could make no contributions to the experimental sciences, as studies by Mary and Thomas Creese (1998), Lynette Hunter and Sarah Hutton (1997) and Margaret Alic (1986) make clear. However, in taking into account the ideological conditions that surrounded the production of forms of knowledge in the seventeenth century (which is the century that most concerns me in this paper) it is possible to visualize the history of women in science, as Sandra Hanson (1996) does, not as one devoid of women but as one of a great loss of potential talent.

One last point as a kind of "pre-contextualizer": I want to suggest that Simone Beauvoir's

(1984) point that "woman" has been historically constructed by men as Other, as the inessential, incidental of his defining absolute, has special relevance to a study of the virtuosa. The critic in attempting to characterize this coinic type is, in the first place (following Beauvoir), obliged to begin with the male prototype. As I hope to show, this is because a certain type of the virtuosa (what I shall call "the virtuosa type two"), the Other, *is* inessential in the sense that Baudrillard suggests the post-modern world is: she is a *simulacrum*, the sign of sign with only a hazy or no concrete referential origin. In order to develop this idea I shall start with a brief (bare-bones) exploration of the coinic figure of the male scientist, which came to be known (given contemporary typographical variants) as the "virtuoso" or "vertuoso", before looking into the cultural implications of its female counterpart, the "virtuosa" or "vertuosa".

The Virtuoso: A Little Gimcrackery

All analysis of the origin of the word "virtuoso" reveals that it came into use in England about the middle of the seventeenth century. It started as a positive term signifying "learned or ingenious person, or one that is well qualified"¹. However, (and significantly) not long after the Royal Society received its charter in 1662 the term became pejorative, and by the end of the seventeenth century to be called a virtuoso was to be associated with futile and indiscriminate study. For example, when William Wotton wrote his *Reflections upon Ancient and Modern Learning* in 1694, one of the things he sought to explain was why "Natural and Mathematical Knowledge [...] had begun to be neglected by the generality of those who would set themselves up for Scholars". The answer was that:

The sly Insinuations of the Men of Wit, that no great things have ever, or are ever likely to be perform'd by the *Men of Gresham*, and that e'er man whom they call a *virtuoso*, must needs be a *Sir Nicholas Gimcrack*; together with the *public ridiculing* of all those who spend their Time and Fortunes in seeking after what some call useless natural Rarities: who dissect all Animals, little as well as great: who think no pan of God's Workmanship below their strictest Examination, and nicest search: have so far taken off the Edge of those who have opulent Fortunes, and a love to Learning, that Physiological Studies begin to be contracted amongst Physicians and mechanics.
Wotton (1694: 418-19)

The "Men of Gresham", of course, was a metonymy referring to the members of the Royal Society, and Sir Nicholas Gimcrack was a reference to the protagonist of Thomas Shadwell's play *The Virtuoso* (1676) - a character who came to embody for many contemporaries just what was wrong with a certain kind of learning (see below).

One of the reasons for quoting Wotton's account of a virtuoso is that he gives some indication as to the social position, interests and activities of the *men* of Gresham. As can be seen, the scope of learning was considerable, "no part of God's Workmanship" being "below their strictest examination". In this context it is possible to distinguish between different kinds of virtuosi. On the one hand, there were those who were considered mere dilettantes who treated science and learning as a kind of social ornament to be added to good taste and fine manners.² However, the dilettante could be distinguished from those endowed with the "proper" spirit of science: those who showed a special interest in (to quote Spingarn) "the details of study and research, in the actual circumstances of their growth and life, and not as abstractions or as mere illustrations of theory and law". The "serious" virtuoso (whether scientist, antiquary or man of letters) was concerned with facts as they illustrate or reveal a pattern or development, and could

thereby be associated with the Baconian spirit of the Royal Society (Spingarn, 1908-1909:Vol.2:xc). However, it is not difficult to see how Bacon himself may have actually given inspiration to those not committed to his rigorous scientific methods. Although Bacon warned against "fabulous experiments, idle secrets, and frivolous impostures, for pleasure and novelty", in *Novum Organum* (1670) he urged fellow scientists to make collections of all prodigies and monstrous births of nature: of anything that was in nature new, rare or unusual (Bacon, 1620: Bk II:169-295). Furthermore, some of the experiments outlined in his *New Atlantis* seem as ludicrous as anything the wits could dream up (see the section on Mad Madge, below).

So, what complicates the definition of the virtuoso is that he could be seen as anyone from a gentleman of fortune dabbling in forms of learning and experimentation (as a form of social grace) to those who were considered to be in the serious business of establishing knowledge on systematic lines (with affiliations to the Royal Society) (Summers, 1927:382, vol. III). It is possible, then, to distinguish between a VIRTUOSO ONE (an amateur) and a VIRTUOSO TWO (what might be thought of as a more professional, institutional being). This distinction will be important later when I come to discuss the female counterpart to the virtuoso, although it should be noted that for the diffuse scientific community just because a "gentleman" involved himself in learned pursuits as a hobby did not necessarily discount the worth of his observations.⁵ Both kinds, however, were the butt of much humour - as Wotton's observations make evident, an affiliation to the Royal Society was no guarantee of immunity from satirical attack (see my comments on Samuel Butler, below).

Although derogatory references to the virtuosi appear in dramatic works from around 1667⁴, the virtuoso, as a full-blown comic type, first appeared on the post-Restoration stage in the shape of the character referred to by Wotton: namely, Sir Nicholas Gimcrack from Thomas Shadwell's play *The Virtuoso* (1676).⁵ Although the virtuoso as a satirical vehicle is part of a tradition which holds the scientist up to ridicule⁶, what distinguishes Sir Nicholas Gimcrack from earlier comic scientists is that, although he is a vain speculator, he is involved in the "new" sciences. Gimcrack, unlike the scientist in Shackerley Marmion's *The Antiquary* of 1641, is no mere collector or worshipper of rarities but, in practising, among other things, chemistry, physics, zoology and astronomy, can be seen as a reflection of the experimental Baconian scientist, usually associated with the interests and activities of the Royal Society. In fact, in his varied interests, he can be seen as an amalgam of the contemporary learned man.⁷

A typical example of contemporary criticism against the virtuoso is when Gimcrack, on being discovered lying face down on a table copying the motions of a frog, confesses, "I content myself with the speculative part of swimming; I care not for the practice. I seldom bring anything to use... Knowledge is my ultimate end". The most common objection to the virtuosi was, as Addison put it, that they were "serious upon trifles"; as Miranda, Gimcrack's niece, says of him, he is "One who has broken his brains about the nature of maggots, who has studied these twenty years to find out the several sorts of spiders, and never cares for understanding mankind."⁸ Samuel Butler, who dedicated much ink to the excoriation of those he felt were involved in ludicrous scientific pursuits, which included those carried out by those affiliated to the Royal Society, perhaps provides one of the most comprehensive list of objections in his "character" of the virtuoso. Among Butler's main criticisms are that the virtuoso suffers from a "want of judgement", that he pursues knowledge "rather out of Humour than ingenuity [...] endeavours rather to seem than to be", his efforts are futile, he has an inflated view of his limited achievements, is obsessive, vain, insular and scornful of the "plan and easy" (Butler, in Daves,

1970:123-124). And, as poems like "The Elephant in the Moon" indicate, the virtuosi are seen as credulous idiots when a humble foot-boy reveals that the virtuosi have mistaken an "elephant" in the moon for a mouse that had crawled into a telescope. They are then revealed as exaggerators and liars when they agree to lie to the public about their findings (Butler, 1928:2f.).

As stated earlier, the word "virtuoso", even by the time Shadwell had written his play of the same name in 1676, had become an ambiguous term, and this ambiguity is also relevant to the female version of the comic type, which I shall explore in the next section. The virtuosa, then, like its male equivalent, denotes anything from a woman of meagre learning to the fully-fledged counterpart of Sir Nicholas Gimcrack: the fanatical charlatan, the conceited and futile experimental scientist.

Act Two: "Some nymphs prefer astronomy to love"

I want to begin my discussion of how women fit into this social and literary context by making a distinction between two passages taken from the tradition of verse satire in the seventeenth century which rebuke the learned lady. The first is from John Dryden's translation of Juvenal's *Sixth Satire*, which indicates that the literary roots of this kind of misogyny (in Western-European civilization) are buried deep in the satire of the ancient poets. After a long catalogue of insults against women, Juvenal asserts, though Dryden (1974:183[1692-3]):

But of all the Plagues the greatest is untold:
The Book-Learn'd Wife, in Greek and Latin bold;
The Critick-Dame, who at her Table sits
tonier and Virgil quotes, and weighs their wits.

This can be compared with Edward Young's satirical sequence *The Love of Fame* (Young, 1854:384[1725-8]), which draws on the same tradition in saying of learned women:

Some nymphs prefer astronomy to love:
Elope from mortal man and range above...
What vain experiments Sophronia tries!
'Tis not in air-pumps the gay colonel dies.
But though to-day this rage of science reigns
(O fickle sex!) soon end her learned pains.

There is, however, an important difference between these two excerpts. Women who have dared to invade the realm of reason or learning are censured in both, but Young's verse interpolates a number of more distinctly "modern" elements. The modern here is in Young's linking women with studies associated with the virtuosi: Sophronia is not weighing the merits of Homer and Virgil but deserting men for astronomy and air-pumps - activities that contemporaries associated with the Royal Society through the experiments of scientists like Hooke and Boyle.

As far as I know, the first example of the comic-dramatic type of the virtuosa who is an experimental as well as a speculative scientist is Thomas Wright's *Lady Meanwell* in *The Female Virtuoso's* of 1693. Although Wright's play is part of a dramatic tradition in England which satirizes the learned lady, it is a loose translation of Molière's *Les Femmes Savantes* (1677). Despite the dramatic and thematic similarities between the two works (e.g. the composition of

incongruous spontaneous verse, the claims and counterclaims of female learning, the suppression of women characterized as termagants) there is, like in the contrast between the satire of Young and Dryden, an important difference. Whereas Molière's savants discourse on philosophy, physics and the intricacies of grammar, Wright's "female virtuosos" are actual virtuosas ("projectors"); i.e. experimental scientists whose speculations are directed towards what are characterised as ludicrous empirical ends.¹⁰ For example, Lady Meanwell's daughter, Lovewit, expatiates on her latest project:

I have made an exact collection of all the Plays that ever came out, which I design to put into my Limbeck; and then extract all the quintessence of Wit that is in them, to sell it by drops to the Poets of this Age

*Wright (1693:23)*¹¹

What is interesting (and ironic) in terms of gender is that this piece of satire was probably inspired, not by a woman, but by the mathematician John Peter who had been ridiculed as a virtuoso after writing a pamphlet which offered the possibility of writing Latin verse without the slightest knowledge of grammar.¹²

The character of Lady Meanwell is also characterized as an experimental philosopher whose ideas, although potentially of use, are held up to ridicule: as she explains:

I was yesterday with my Lord Mayor, to communicate to him a Mathematical Engin of my own, to keep the Streets as clean and as dry as a Drawing Room all the Year round... 'Tis only setting up Timber Posts round about the City, and then fixing a pair of Bellows upon every one of 'em, to blow the Clouds away

Wright (1693:23)

With reference to these quotations, I want to address here the question of whether the Lovewits and Lady Meanwells had counterparts in history, or whether the stock criticisms aimed at the male comic type (e.g. excessive pride, uselessness and misplaced zeal) were simply applied to contemporary notions of women as "pretenders" to learning.

Myra Reynolds (1920), when discussing the learned lady as a comic type, was able to list over two dozen plays between the early seventeenth and the mid-eighteenth centuries that featured the ridicule of female savants, many of which portray the female experimental scientist or "virtuosa".¹³ However, the feminine derivative denotes anything from a woman with pretensions to learning (which I shall call VIRTUOSA ONE) to the fully-fledged counterpart of what I called above the "virtuoso two": the fanatical charlatan, the conceited foolish and futile experimental scientist whose speculations and practices resemble the interests of the "Men of Gresham" (which I shall call VIRTUOSA TWO).¹⁴

Because the male comic type of the virtuoso is a cultural manifestation which reflects the emergence of a group of men distinguished by actively practising the new science in an institutional context, it may be assumed that the same set of cultural conditions serve as an index for the appearance of the virtuosa. What emerges from studies dedicated to women in science, and would contradict any interpretation based on an over-simplistic causal relation between base and superstructure, is that this was *not* the case. I do not argue that there were no women with an interest in the new science, but that historical examples of female experimental scientists (at an official institutional level) were non-existent.¹⁵ For example, even if women were discouraged from *practising* science educated ladies were often encouraged to take an interest in scientific

topics in the popular journals of the day; (e.g. the *Tatler*, *Spectator* and *Guardian*, as well as the "ladies periodicals" see Nicolson (1935), and Rogers (1982)). So, the ideological circumstances of repression were by no means monolithic: there were certainly differences in terms of the *degree* to which women could interest themselves in forms of learning.

Act Three: Copernicus or Cheesecake?¹⁶ A Grammar of FeMale Sensibility

All obvious candidate for consideration as a historical model for the virtuosa in Britain is Margaret Cavendish, Duchess of Newcastle, who, according to Myra Reynolds (1920:46), was "the most talked-of learned lady of the Restoration period."¹⁷ The event that probably established the Duchess as a virtuosa in the eyes of contemporary wits was her unprecedented visit to the Royal Society in 1667, thus making herself the first woman to be admitted inside that fortress of male learning.¹⁸ However, although a self-professed philosopher, sufficient in itself to set her up for ridicule, she relinquishes all claims to being an active experimental scientist. She admits to the reader in *Philosophical and Physical Opinions* to never having read anatomy or ever seeing "a man opened, much less dissected." Her knowledge of bones, nerves, muscles, veins and "the like" was gathered not from personal experience but from various "discourses" or what her "natural reason" put together.¹⁹ Myra Reynolds has suggested that, from the modern scientific standpoint, the inaccuracy and self-confidence of the Duchess's studies "render them worse than futile", but qualifies this by saying:

... it was not ignorance that was charged against the Duchess by her critics. The experimental method was having its triumphs, but doubtless a good deal of the scientific writing of the first half of the century was marked by a dogmatic tone and an uncertainty as to facts, so the Duchess was not attacked on that score. The common report that irritated the Duke of Newcastle to a spirited defense of his wife was that she could not have written these books, for "no lady could understand so many hard words."

Reynolds (1920 48)²⁰

Margaret Cavendish's husband's defence takes us to the heart of the sexist ideology that pervaded the prevailing ideological climate. As Mary Astell, who set up an institution for female self-development observed, "If, in spite of all difficulties, Nature prevails [and a woman takes up learning] they are stared upon as Monsters, censur'd, envied, and every way discouraged" (in Rogers:1982, chap. two).²¹

In many of the works featuring the female savant or virtuosa this radical doubting of the intellectual capacity of women is often linked to the related ideological question of whether it is *right* for women to occupy their time with what is seen as masculine learning. For example, in Thomas St. Serfe's play *Tarugo's Wives* (1668) when Horatio says of Lady Sophronia (a Virtuosa type one) that she possesses "a vast knowledge in masculine learning" Tarugo replies:

Vast knowledge say you? Ought Women to have any other understanding then good huswifry; particularly to be skill'd in composing their valiant decoctions of cock-broth, and restorative Jellies...? If it can be, I conceive it more proper for them, and much more useful for us; what you call masculine learning is every way as unbecoming a Woman as to see a Switzer a Hors-back.

St. Serfe (1668 2)

Likewise Lady Science, (Virtuosatype two) in James Miller's *The Humours of Oxford* (1736).

is told that "The Dressing-Room, not the Study, is the Lady's Province"²², just as Sir Maurice Meanwell, in Wright's *The Female Virtuoso's*, says of virtuosas (type two):

... So much common Sense has taught me, that all the study and Philosophy of a Wife, should be to please her Husband, instruct her children, have a Vigilant Eye over Domestic Affairs, keep a good Order in her Family, and stand as a living Pattern of Virtue, and Discretion to all about her.

Wright (1693)

To adopt Kate Millet's terms (1977:23-35), women who seek intellectual expression, are to accept their subordination, their "reproductive" rather than "productive" possibilities, their "chattel status", what amounts to "patriarchy": the set of power-structured relationships which guarantee "superior status in the male". Another example of the kind of moralizing described above comes from the dramatist Susannah Centlivre (ironically, née Freeman). In her comedy *The Basset Table* (1707) Centlivre presented the virtuosa, Valera, who, in practising natural philosophy and fishing for eels in vinegar, was, in all likelihood, based on Shadwell's Gimcrack.²³ Centlivre has the character Lady Reveller rebuke Valera (who dissects a dove and is eager to practice vivisection on an Italian greyhound) by saying, "Philosophy suits our sex as Jackboots would do" (Centlivre, 1872: Vol.1:218).

Centlivre's dramatic condemnation of female learning (like Aphra Behn's: see Lady Knowall in *Sir Patient Fancy* (1678)) might usefully be seen in relation to Elaine Showalter's distinction between the Feminine, Feminist and Female stages, which outline the developmental phases in the evolution of a female tradition of literature. Centlivre may be (anachronistically²⁴) fitted into Showalter's Feminine stage, the phase of "imitation" of the prevailing modes of the dominant tradition and an "internalization" of its standards of art and its assumptions about social roles: Centlivre, while involved in literary production, repeats the common condemnation of women becoming involved in intellectual production.

In contrast to Centlivre, Margaret Cavendish's radical stance could be compared to Showalter's Feminist phase, for she refused to internalize the dominant patriarchal power structures that sought to stifle women intellectually by imprisoning them in domestic routines. She spoke out publicly against those men who made women what she called "irrational idiots" because they thought it impossible that women should have "learning or understanding, wit or judgement". Women, she declared, in her "Address to the Universities", "are become like worms that only live in the dull earth of ignorance".²⁵ This attack on behalf of women echoes other contemporary defences, some of which are incorporated into the works that feature the comic type of the virtuosa. Here is an illustration:

'Tis the partial, and foolish Opinion of Men Brother, and not our Fault has made it [female learning] ridiculous now-adays: for a woman to pretend to Wit, she was born to it, and can shew it well enough when occasion serves.

Wright (1693: 25)²⁶

This example has actually been taken from Wright's *The Female Virtuoso's*. Here C'atchai's defence of her learning (like Valera's in *The Basset Table*) sets up a dialectical tension which sits very uncomfortably in, but is ultimately subsumed by, the overall conclusion (quoted earlier) that "all the study and Philosophy of a Wife, should be to please her Husband..."²⁷ The general conclusion I draw at this point is akin to Stephen Greenblatt's comments on British Renaissance drama, that any radical doubts that may be provoked (in this case about gender) are smothered:

radical ideas surface but only to be contained within aesthetic form (Greenblatt, 1981). In terms of a cultural materialist reading, these potentially awkward moments of subversion, struggle and dissent can be seen as "faultlines" - revealing cracks, weaknesses and unresolved tensions in dominant forms of ideology (Sinfield, 1992).

Mad Madge of Newcastle: another Mad Woman in the Attic

A related ideological concern is the fact that Margaret Cavendish was labelled by her detractors as "Mad Madge of Newcastle." If the Vice-Chancellor of Cambridge University said of Cavendish that, "the great women of old could not contend with her for the palm of learning, but rather would they, with bent knee, this *Solan Margarentam Consumatissimam Principem*" (in Reynolds, 1920:50), he seemed to be in a minority: Samuel Pepys called her "a mad, conceited, ridiculous woman"²⁸ while Dorothy Osborne remarked that, "I have seen it, and am satisfied that there are many soberer people in Bedlam" (*ibid.*). The reasons why Cavendish was seen as fit for Bedlam are various. Reynolds, in a quotation already cited, asserts that Cavendish was not accused of being ignorant but, as a woman, intellectually incapable of producing the work she did. However, as Minz has explained, Cavendish was also portrayed as mad because of what was seen as stylistic excesses coupled with bizarre speculations (Minz, 1952:169). However, these speculations (which include the following questions: are the stars jellies? why are musicians mad? and what fills our heads with fairies?) may not be, given the contemporary scientific context, as singularly inane as they seem. The satiric literature of the period is teeming with parodies of what seemed like fatuous speculations and pointless experiments.

For example, Marjorie Hope Nicolson and Nora Mohler have shown how most of the projects practised by the virtuosi in Swift's *Gulliver's Travels*, including extracting sunbeams out of cucumbers, teaching a blind man to distinguish colours by smell, cultivating fields with hogs, transmuting calcine ice into gunpowder, and employing spiders to both spin and weave fine silk thread, can be traced to the *Philosophical Transactions of the Royal Society*. Commenting on Swift's satiric method, Nicolson and Mohler argue that, apart from some hyperbole and comic embellishment, Swift "simply set down before his readers experiments actually performed by the Royal Society, more preposterous to the layman than anything imagination could invent and more devastating in their satire because of their essential truth to source" (Nicolson & Mohler, 1937:322-329). Indeed, even Francis Bacon, that great inspirational force behind the Royal Society, was not beyond suggesting (in the final part of *New Atlantis* (1626)) that salt could be strained out of water, that drinking through the palm of the hand may produce a sensation of taste in the mouth, or that wildfires may burn in water.

If Cavendish is to be stereotyped (to coin Gilbert and Guber's term) as a "madwoman in the attic", then the appellation (with the appropriate gender changes) would also seem to be appropriate to many contemporary males. To some extent it was Cavendish's attempt at intellectual self-determination that was responsible for her reputation as "Mad Madge": rather than build on the speculations of others, she emphasized the originality of her own mind, reminding her readers that she could never "afford boardroom to other people's ideas lest the legitimate offspring of her own brain should be crowded out"²⁹ However, although it has been suggested that she may have served as a model for the virtuosa, Marjorie Nicolson has demonstrated that Cavendish, in defending as late as 1666 that the moon was an illuminating body, was actually refusing to accept the evidence of experimental science. Thus, her lack of

interest, or refusal, to accept experimental philosophy puts her into the older tradition of the learned lady (Nicolson, 1936).³⁰

Neither Mozahs (1974), Reynolds (1920) or Janet Todd find a single model for the scientific virtuosa as a comic type. As Janet Todd has written, "the main forbidden area of learning for women was natural science" (1984:4).³¹ However, William Powell Jones has suggested that the learned lady as a comic type found her counterpart in "real life" as Elizabeth Carter, Mary Chudleigh and Elizabeth Rowe, yet as Reynolds, Mozahs and Meyer imply, none of those named by Jones (1966:65-78) can be considered as women engaged in sustained experimental research. Gerald Meyer (in his book *The Scientific Lady in England, 1650-1760*) shows, however, that women were translating scientific and literary works whilst familiarizing themselves with the terminology and methodology of science, chiefly with regard to the microscope and telescope. Nevertheless, Meyer's work demonstrates more how women were making themselves conscious of contemporary scientific trends than having the opportunity of actively involving themselves in the scientific projects associated with the activities of the Royal Society. Thus, although there were women abandoning plates for Plato, it is doubtful that they were able to swap many saucers for the experimental sciences.

Faultlines and unjust deserts

Grafting the grammatical term "diathesis" (voice)³² onto cultural materialism, it is possible to see that in this disparity (or gap) between literary type and sociological lack (another "faultline"), "voice" can be given to the pover structures which frustrated women as productively creative or rational members of society. A central problem for "women", as socially constructed in *phallogocentric* post- (and, for that matter pre-) Restoration discourses, may be articulated according to how the subject of a verb is affected by action. To put this in Cartesian terms, the active voice, "I write" or "I think, therefore I am", was, according to dominant male-centred values, masculine. Contrarily, the only subject position left open to women, which did not put them in conflict with the dominant ideology, was the passive form: women were not (were by "nature" unable) to write or think (rationally); they could only be expressed in the following way: "I am thought/written, therefore I am".

Coming back to Addison's criticism of the scientific virtuosi that they were "serious upon trifles", if the term "trifle" is allowed to bifurcate into its twin significations (the abstract versus the concrete noun, the trivial versus the cream dessert) it is possible to see what is "symptomatic" in the value systems which lay behind the criticisms of both sexes. Whereas men were warned against being serious upon trifles (although entitled to inhabit the abstract sphere), the moral imperative for women was precisely the opposite: they were to dedicate their *lives* to the trifle (the concrete noun metonymically marking out their non-abstract, non-intellectual domestic role). So, whereas from the *phallogocentric* perspective women get their "just dessert": from a feminist perspective women get an "unjust desert": the fecundity of the intellect is repressed by the imposition of the aridity of confined domesticity.

Act Four: "The Foolish Opinion of Men"³³; or, the missing Referent

Ultimately, of course, the number of women participating in the experimental sciences may be

a historical question that cannot be decided. However, if it is accepted that the comic figure of the virtuosa was akin to a woman who exhibited a thirst for knowledge, who translated scientific works, or who was the owner of a telescope or microscope and working very much in the margins, then contemporary records would provide prototypes, but if contemporary women are sought who are the direct female counterparts of a Robert Boyle or Robert Hooke (i.e. institutional beings), then it seems that the experimental female scientist was a mythical creation. If this is the case, an obvious question presents itself: why should the female experimental scientist be so prevalent as a comic type?

I have tried to answer this question in various ways. Firstly, at the simplest level, the virtuosa cannot be divorced from her literary roots in the neo-classical tradition of verse satire which helped to perpetuate the age-old scorn for women who showed an inclination for learning (VIRTUOSA ONE); secondly, that post-Restoration drama was not only part of a native tradition of misogynous attacks on the learned lady, but was a continuation of a long tradition going back to the classical writers (there was also the influence of contemporary French drama censuring the intellectual aspirations of women); and thirdly, and what seems distinctly British, was that the comic figure of the learned lady had imposed upon her what were seen as the foolish experimental obsessions of contemporary male scientists. British dramatists, then, simply exaggerated a number of traits associated with the older tradition of the learned lady and endowed them with the character of the virtuoso, partly for comic effect, and partly as a reaction against the threat of female emancipation from their traditional domestic roles. So, whereas the virtuoso, as depicted in satire, tends to respond to a crude base-superstructure model in reflecting changes in scientific thinking and methodology (the mechanical-experimental philosophy challenging the Scholastic tradition), the virtuosa, "symptomatically", tends to reflect dominant male attitudes about the nature of women and their intellectual capacities and social roles. Thus the literary representation of women as speculative-experimental philosophers says less about women and their emergence into the male dominated sphere of experimental science, than about the perpetuation of an age-old misogyny, which functioned as a convenient contemporary vehicle to voice objections against those women (like Cavendish, Elizabeth Carter, Mary Chudleigh and Elizabeth Rowe) who would challenge the practices of their day and enter the "masculine" realm of science, reason and learning.

It may be that an adequate answer to this question must also include an analysis of satiric *function*. At the rudimentary level, this imposition of male socio-scientific practices onto a female comic type serves as a foregrounding technique (rather like Shklovski's "Defamiliarization"): i.e. the traditional invective against women who sought intellectual fulfilment, merely undergoes aesthetic transformation: it makes itself more topical. I think to bring out the fuller implications it is useful to conceptualize these relations by mixing the simplified Althusserian "symptomatic" reading with Baudrillard's conception of the post-modern condition as one of proliferating *simulacra* (with its post-structuralist notion of the sign). Within the terms of Althusser's (1970) "symptomatic reading" the "content" of the experimental virtuosa can be seen as a form of displaced criticism of the male scientist "serious upon trifles". Here the critic focuses on the relationships between the experiments performed by the virtuosas (e.g. Sophronia's "pump") and then historicizes them by relating them to the practices of contemporary empirical scientists (e.g. Hooke and Boyle) and, in passing, notes that the form of satire is in the tradition of the learned lady. However, from a feminist perspective, it may be more fruitful to see this symptomatics in a Baudrillardian light.³⁴ This kind of reading would relate to the way in

which patriarchal power structures may be expressed in literary form: that is to say, how misogyny rejuvenates itself. What I am suggesting here is that in the image of the experimental virtuosa misogyny undergoes a significant literary transformation: with the aid of contemporary science, the mythologizing of women as an intellectually inferior domestic being, reaches a new level of perfection. In order to explain this I am going to use the distinction I made earlier between VIRTUOSA ONE and VIRTUOSA TWO.

Virtuosa One

In the case where the virtuosa merely stands for the traditional learned lady with a new title, we have definite possible referents (e.g. Margaret Cavendish, Elizabeth Carter, Mary Chudleigh and Elizabeth Rowe). The signifier (VIRTUOSA ONE) devours its counterpart - subsumes the "learned lady": it is already ripe for further growth and transformation. This cluster of signifiers mythologizes women by (to use a Barthesian cliché³⁵) presenting culture as nature: representing them as intellectually inferior - a mob of signifiers which pressgangs into its service the notion of women as being biologically (teleologically) predisposed to function only in their traditional domestic roles.

Virtuosa Two

Now, in the case where the virtuosa stands for a female experimental scientist, the same moral imperatives remain as in case one, but a referential cause is nowhere to be found: this is point zero, the world of the *hyperreal*, the *simulacrum*. The virtuosa, as superstructural satiric vehicle, has now become post-modern in a Baudrillardian sense: she is related, not to a referential world outside the text, but to other texts. For example, Centlivre's Valera (*The Basset Table*), like the structuralist view of the sign, is not related, to a referential world outside the text but to the likes of Shadwell's Gimcrack. She is a multiple product of *intertextuality*: she is "hyperreal", the displaced sign of a sign, cut off from any referent.

EPILOGUE: From the analyst's chair

There is the possibility, then, of seeing the sign of the virtuosa (type two) as a useful post-structuralist allegory for the way in which stereotyping processes mythologize "woman". Through a "symptomatic reading" woman is seen to be the victim of a kind of *phallogocentric* teleology which determines her as *homo domesticus*, a contingent cultural construction which parades as nature. To hazard a general conclusion, the comic figure of the virtuosa (type two), like Athena springing from the head of Zeus, is an encephalic creation: a myth *engendered* in the ideological test of man: she is, to indulge in a pun, an *encephalic* creation. To unpack the pun the virtuosa as simulacrum can be seen as a symptom of the fear of loss, of authority and power: as a product of an anxiety that male privilege may be disturbed: that man may find himself ontologically and epistemologically alienated by a twist in the voice of diathesis: of being written, of seeing himself represented, of fearing his loss in the specular image of the Other.

In the "faultline" of Wright's *The Female Virtuoso*'s Catchat exposes the "partial, and

foolish Opinion of Men" which represses female learning. Catchat's words echo down the centuries reminding us that women as thinkers, involved in the official production of knowledge, would have disturbed the *order of things*. A materialist reading of Lady Meanwell and her sisters can help to show that the vast ordering of the world that was taking place in the seventeenth century according to rationalist-empirical techniques and which, according to Hugh Kearney, would be "a major cause of the transition from traditional modes of thinking, in which authority was accepted as natural and desirable" was achieved under the yoke of another kind of brutalizing authority. That is, the ordering of the world involved the maintenance of order on gender lines: if an understanding of the physical world was to be transformed through intellectual struggle and by "critical assessment of all assumptions" it would also be achieved through the kinds of bogus and reductive forms of essentialism that are still practised against women today, keeping women, as Zuckerman *et al.* (1992) suggest, in an "outer circle" of the scientific community.

NOTES

1. *The Oxford English Dictionary*, Vol. X, pp. 240-241 - a quotation from Charles Blount's *Glossographia* (1656).

2. A study of gentlemen's handbooks between 1531 and 1622 reveals a change in attitudes to knowledge and learning. Sir Thomas Elyot in *The Boke Named the Governour* (1530) mentions the pleasures of drawing, painting and geometry, but warns the gentleman to treat these "as a secret pastime" before "the time cometh concerning businesse of greater inopiance" (in Houghton, 1942:59). Between Elyot's handbook and Henry Peacham's *Complete Gentleman* (1622) comes the translation of Castiglione's *The Book of the Courtier* (translated in 1561) which celebrates learning as a "true and principall ornament of the minde" (*ibid*:59), a change which is reflected in Peacham's recommendation to gentlemen that they may study for variety's sake. He goes on to state that "who is nobly borne, and a scholar withall, deserveth double Honour [...] and winneth to himselfe both love and admiration" (*ibid*:59).

3. For a discussion of the social origins of the virtuosi see Walter E. Houghton Jr (1942).

4. For example, see Dryden's comedy *Sir Martin Mar-All* produced in 1667 where the eponymous hero tries to impress Old Moody by asserting, "I am sure, in all companies, I pass for a Virtuoso" and receives the reply "Virtuoso! What's that too? is not Virtue enough without O so?" (Act III, sc. i).

5. For other popular literary works which featured the virtuoso see, for example, Shackerley Marmion's *The Antiquary* (1641), Sir Thomas St. Serfe's *Tarugo's Wives, or, the Coffee House* (1688); see also Samuel Butler's portrait of Sidrophel in part two of *Hudibras* (1664) and his *Elephant in the Moon* (which is a wholesale attack on the Royal Society and especially Sir Paul Neale) and his "character" of the virtuoso (see below). William King satirized Sir Hans Sloane in *The Transactioneer, with some of his Philosophical Fancies in two Dialogues* (1700) and the Scriblerians satirized Dr John Woodward in *Three Hours, After Marriage* (1717). Of course, Swift's projectors in the Laputa section of *Gulliver's Travels* (1726) are the most famous examples. Much later John Wolcot (Peter Pindar) satirized Joseph Banks in his *Sir Joseph Banks and the Emperor of Morocco* (1788).

6. See C.S. Duncan, "The Scientist as a Comic Type" (1916) and Claude Lloyd, "Shadwell and the Virtuosi" (1929).

7. There is some controversy about how far, or if, Shadwell was actually satirizing the Royal Society. See Joseph M. Gilde (1970) who argues that the butt of Shadwell's satire was directed at those who contradicted the Society's strictures against false science and elaborate rhetoric. I agree with Gilde but it is worth noting that Shadwell was often understood by contemporaries to be hitting at the very heart of the Society's pursuits, that many of Gimerack's experiments can be traced back to scientists directly associated with the Society.

8. For Kieliard Addison's criticism see *The Tatler*, Y' 216, Thurs., Aug. 24 to Sat., Aug. 26, 1710. Pope echoed this sentiment when he put the argument into its religious context: "O! would the sons of Men once think their Eyes And Reason giv'n them but to study *Flies!*/See Nature in some partial narrow shape, And let the Author of the Whole escape..." see *The Dunciad* (1742) lines 453-458 in *The Poems of Alexander Pope* ed. John Butt (1963:789). For the quotations from Shadwell see *The Virtuoso*, Act II, sc. i, and Act I, sc. ii respectively.

0. Literary forbears include Jonson's "Collegiate Ladies" and "Lady Projectoress" in *Epicœne* (1609) and *The Devil is an Ass* (1616). Jasper Mayne's "philosophical madams" in *The City Match* (1639) and Fontenelle's *Conversations on a Plurality of Worlds* (1686), which was repeatedly translated into English; see Reynolds (1920).

10. Both works, however, mirror contemporary interest in the microscope. see, for example, *The Female Virtuoso's* (Wright, 1693:25).

11. This prefigures the machine in the Laputa section of *Gulliver's Travels* which, by collating all the elements of language, was able to write books on philosophy, poetry, politics, law, mathematics and theology.

12. The pamphlet was entitled *Artificial Versifying: A New Way to Make Latin Verses* (1678). The article was ridiculed by Richard Steele when he said "This virtuoso, being a Mathematician, has, according to his Taste, thrown the Art of Poetry into a short Problem, and contriv'd tables by which anyone without knowing a Word of Grammar or Sense, may, to his great Comfort, be able to compose, or rather to erect, Latin Verses." *The spectator*, Vol. II (N° 221) ed. Donald F. Bond (Oxford, 1965:356).

13. Other plays featuring the virtuosa (not always an experimental scientist) are Congreve's *The Double Dealer* (1694), Shadwell's *Sullen Lovers* (1699), Cibber's *The Refusal* (1771) and James Miller's *The Humours of Oxford* (1726). See Reynolds (1920:372f.).

14. An example of the ambiguity is when Shadwell has Gimerack coin the term when he tries to explain the presence of Mrs Firt, his paramour: "Indeed, I have been acquainted with this lady, being a virtuosa, upon philosophical matters, but never saw her here till we now came for this discovery." *The Virtuoso*, act IV, sc. ii. The virtuosa here deals in "philosophical matters" as do many so-called virtuosas, including Shadwell's Lady Knowall *The Sullen Lovers* (1668) who claims to be a "virtuosa" but, as C. S. Duncan (1916:288) has pointed out, she fits into the tradition of the "she pedant".

15. Jones (1966) has suggested that the learned lady as a comic type found her counterpart in "real life" in Carter, Chudleigh and Rowe etc.; however, they do not appear to have been *experimental* scientists - see Janet Todd (1984:4). See also Phillips (1990) Schiebinger (1991) for more up-to-date histories and Ogilive's biographical dictionary which includes a useful bibliography (1996).

16. I have concocted this phrase from the *Guardian* of 8th of Sept. 1713 (N° 155) which printed a satire where "Lady Lizard's" young ladies divide their time between "jellies and stars, and making a sudden transition from the sun to an apricot, or from the Copernican system to the figure of a cheese-cake."

17. Cavendish's literary career began with *Philosophical Fancies* in 1653 and ended with the *Grounds of Natural Philology* in 1668, a period in which she wrote best part of twelve folio volumes.

18. For the visit see S. Mintz (1952)

19. See "To the Reader", *Philosophical and Physical Opinions* (London, 1663:100-101).

20. The Duke's words are taken from the 1655 ed. of *Philosophical and Physical Opinions*, see the "Epistle to justify the Lady Newcastle, and Trutli against Falsehood, laying those malicious aspersions of her, that she was not the Author of her Books."

21. As H. J. Mozahs has said, "so unnatural for women were literary and scientific pursuits regarded by all classes that the few who attained any eminence in them were classed as abnormal creatures..." (1974:98).

22. In *Miscellaneous Works in Verse and Prose by Mr. James Miller* (London, 1741: Vol. 1:186).

23. This reference to "eels in vinegar" was probably a satire on the work of Robert Hooke, for the reference in Shadwell see *The Virtuoso*, Act IV, sc. iii.

24. Anachronistically because the Feminine phase dates from about 1840 to 1880 (Showalter, 1977:13f.).

25. The address is in *Philosophical and Physical Opinions* (see Reynolds, 1920:50).

26. These criticisms are echoed in Centlivre's *The Basset Table* (Centlivre, 1872: Vol. 1:218) and William King's *Dialogues of the Dead* (1699) (see N° 6), and the figure of Calphurnia in the "Affectation of the Learned Lady." For later controversy see Katherine Rogers, *Feminism in Eighteenth-century England* (1982).

27. Marjorie Hope Nicolson (1935) points out that in *The Basset Table*, "Here the virtuosa has actually become the heroine; and though there is still much laughter at her expense, there is a contagious quality in her enthusiasm for science, which explains the patience of her lover...who calls her with impatient tenderness 'The little She Philosopher.'"

28. Samuel Pepys' *Diary* (ed. Henry B. Wheatly (1946), see the entry for March 18, 1668. See the general background see Henry T. E. Perry, *The First Duchess of Newcastle and her Husband as Figures in Literary History* (Boston, 1918:265f.).

29. See the revised edition of *Philosophical Fancies* (1663), quoted in Reynolds (1920:48)

30. It has been suggested that Cavendish was the model for Phoebe Clinket in Arbuthnot, Pope and Gay's *Three Hours After Marriage* (1717). The model, according to the "Key" to the work is the Countess of Winchilsea. However, it is not at all certain who, if anyone, Clinket portrays, or a commentary on the likely candidates for the satire see John Fuller's comments in *John Gay, Dramatic Works*, Vol. 1 (Oxford, 1983:440f.)

31. Mozahs has written that, "Although the satire in some of the comedies would indicate that women were manifesting some interest in the new discoveries through the telescope and the microscope, and were sometimes giving themselves to laboratory experiments in dissection, there is no serious record of any real research in science by women" (Mozahs, 1974:434-5). Whether or not "real research" was done or not is beside the point here, I am only claiming that women were relegated to producing knowledge from the margins.

32. My ideas here have been influenced by the form of Barthes' argument in his "To Write an Intransitive Verb" (1974: 134-145), although the ends to which I put the terms are entirely different.

33. This phrase is taken from a passage quoted earlier from Wright's *The Female Virtuoso's* (1693:25): "'Tis the partial, and foolish Opinion of Men Brother, and not our Fault has made it [female learning] ridiculous now-a-days; for a woman to pretend to Wit, she was born to it, and can shew it well enough when occasion serves".

34. A discussion of the virtuosa as a "third order simulacrum" in the context of the seventeenth century tends to challenge Baudrillard's historicization of the production of the sign (Baudrillard, 1993:50f.) - here the post-modern condition is projected back beyond its Baudrillardian historical boundary. In this respect the notion of the post-modern used here would be closer to Lyotard's conception of it as a recurring phenomenon (Lyotard, 1984)

35. See *Mythologies* (Barthes, 1972b).

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