Plant substances have long been known to be used for fertility regulation—as contraceptives, emmenagogues, abortifacients or fertility enhancers. In the course of a study of traditional fertility regulating methods, certain herbs and flowers were found to have persisted both geographically and over long periods of time. Herbs referred to in this study in present day Europe and the United States are the same as those described in the great Elizabethan herbals, and those were recorded originally in the materia medica of Theophrastus, Dioscorides, and Pliny, making a two thousand year tradition of plants used for the particular purposes of fertility regulation. Some of these familiar herbs and flowers, in particular rosemary, fennel, rue, pansies and violets must have been known as such to Shakespeare. In fact, an awareness that these herbs were used to regulate fertility may well enhance our understanding of Ophelia’s litany of herbs and flowers in her discourse of unreason (Hamlet, IV, v, lines 176–183).

Previously perceived as bearers of complex meanings, her references to these herbs and flowers may be better read as a shocking enumeration of well-known abortifacients and emmenagogues. The suggestion is not made here that these methods were or are effective in provoking abortion or inducing menses, or that Ophelia was meant to have used them, but that they were widely known and subjects of commonly held belief to author and audience alike.

The classical scholarship of the previous century had made available to the English reader knowledge of the plant lore and herbal medicine of Hippocrates, Theophrastus, and Dioscorides, of Pliny, Galen, and Avicenna. In the Introduction to his edition of Holland’s translation of Pliny, Turner (1962: 12) has written “Holland made Pliny, in effect, an Elizabethan author, and as such he has had a considerable influence on English literature. Though Shakespeare seems to have known the ‘Natural History’ in Latin, he probably read Holland’s version when it came out in 1601.” Discovery of and travel to foreign lands had made available the plants themselves. Baker (1970: 23) notes that the Elizabethan Age “appears to have been a time of plentiful introduction of plants into gardens; one estimate is that over a hundred species were added to the list of medicinal herbs of foreign origin.” The great epidemics of plague, the seemingly incurable venereal and other debilitating diseases required people for their own safety to know as much
of therapeutics as was possible. "Physicke" gardens were popular (Beisly, 1864). In the decades before the writing of Hamlet, at least nine major herbals were published in English, and several of these had been issued in many editions. An "herbal" as described by G. H. M. Lawrence (1965: 1) is "a book on plants of real or alleged medicinal properties, which discusses the appearance of those plants and provides information on their medicinal importance and use." In her book The Old English Herbals Eleanor Sinclair Rohde (1922) includes a bibliography of all the herbals available in English by the end of the 16th century. Some of them were published by Banckes (1525), Turner (1568), Gerarde (1597), Batman (1582), Bullein (1562), Langham (1579), and the Grete Herball published by Treviris, issued in ten editions between 1525 and 1560 (Tabor, 1970). The art of writing herbals was collection of and discrete use of other sources and illustrations. Belief was renewed and maintained by each reiteration (slightly differently worded) of the benefits and "vertues" of particular herbs. Separate translations of the classical writers also account for some variation. At the same time, books on physiology, anatomy, and medicine or "physicke" were also very popular. Anatomy and principles of health care of Shakespeare's time are derived here from Vicary's Anatomie (1577) and Bordes' Breuiary of Helthe (1547).

**THERAPEUTICS**

These particular herbs were thought to act as emmenagogues, i.e., in the terms used in Elizabethan England, substances taken by mouth as tea or tisane, or applied locally with massage to induce menstruation, for "bringing down" the "menses," "termes," "courses," "sickness," "flowers," "fleurs," or as abortifacients, substances used similarly to provoke abortion. Then, as now, there is a fine line between starting a potentially missed menstrual period and avoiding an unwanted or inappropriate pregnancy, and the same substances were often used for both purposes. As Wolfgang Jöchle, in "Menses-Inducing Drugs" (1974: 425), points out, "amenorrhea was perceived as a disease, but also there were abortifacient methods for the female part of society which tried to control its reproductive performance themselves." Stronger substances, used later in gestation and with greater risk were those with oxytocic properties used for "casting out" a dead fetus or "ye seconds" (placenta) and presumably also thought effective in casting out an unwanted embryo. Whether pregnancy could be real or imaginary is not at issue here. In any case, Ophelia's speech was capable of conjuring up images of pollution in the mind of the hearer and suggesting a dramatic change in her character from a former state of purity.

Classical values about abortion and contraception were clearly stated in a translation of Soranus: "The fruit of conception is not to be destroyed at will because of adultery or of care for beauty, but is to be destroyed to avert danger appending to birth" (quoted in Turnley, 1968: 15), and later by Pliny, "Thus have I shewed one receipt only, of all those that keep women from conceiving; which I may be allowed to do in regard to some wives, who being too fruitful and overcharged with childbearing, have some reason to play them a while and rest from teeming; and therefore may be pardoned, if they use some means therefore" (Holland's translation of Pliny, 1601: 305-6).

Contemporary values were exemplified in Andrew Bordes Breuiary of Helthe (1547 Fol. IX) under Embria, "Eat good meates and drinks, and let such women have their lusts and beware of abortion," and under Abhortus, ". . . it is when a woman is delivered of her child before her time. . . . it may become by recipes of medicines as by the extreme purgations, potions, and other laxative drinks, of the which I dare not to speak of at this time lest any light woman should have