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The Honors Program at Bridgewater

BY BARBARA APSTEIN

The Honors Program provides an opportunity for gifted and highly motivated students to reach their full academic potential. The senior Honors Thesis, completed under the guidance of a faculty mentor in the student's major field, is the capstone of the program.

CHRISTINE OLINGER

Christine Olinger is currently teaching English, Psychology and Journalism at Abington High School. She also works part time for the U.S. Government as an Internet Security Specialist, and publishes a bi-monthly column of satire and social commentary on the Ladybug Books web site (www.ladybugbooks.com/attic.htm). Last year she co-authored a book, He Mail/She Mail: the meaning of life in email, with psychologist Elliot Grant, which received a five star review from Amazon readers. She is working on her first novel and earning her Middle School Teaching Certification at Bridgewater. Olinger was the 1999 recipient of Stones magazine's "Best New Voice" award for poetry.

There is a moment in every English major's life when it happens: words on a page change everything. It's an epiphany, a catharsis of the mind, a complete connection to literature. For me this moment came in Professor Judith Stanton's Modern American Poetry class, reading H.D.'s Trilogy. Long after the semester was over, I found myself leafing through my dog-eared copy of the three epic poems. It seemed natural, when it came time to choose a topic for my honors thesis, to focus on this work. The thesis was a detailed analysis of the multiple layers of history dissected in the poem. This careful scrutiny of each civilization's common myths, sounds, and images provides the basis for H.D.'s poetic revelation: that masculine theology, philosophy, and history has trapped mankind in a death-cycle. She uncovers the hidden secret: that while male gods represent destruction and death, female goddesses embody birth, love and renewal.

H.D. was born Hilda Doolittle in Bethlehem, Pennsylvania, and was dubbed H.D. by her contemporaries, who included such notables as Ezra Pound, Marianne Moore, Amy Lowell and D.H. Lawrence. In July of 1939, when the bombings of World War II began in England, Doolittle was living on Sloane Street in London. A visionary and spiritualist, H.D. began holding daily seances in order to find meaning in the midst of chaos. What emerged from these sessions were three long poems of Imagist verse, The Walls Do Not Fall, Tribute to the Angels, and The Flowering of the Rod, later to be published together as Trilogy.

In Trilogy, H.D. analyzes the similarities of phrase, myth and symbol common to each civilization. "We have always said," she writes, "forever and ever, Amen," connecting the Christian word of agreement with the Egyptian sun god Amen-Ra. Doolittle was present in the Valley of Kings when King Tut's tomb was opened. Inside, archeologists found Roman plasterings covering figures of Amen, and Corinthian columns placed over altars to the god Mithra. H.D. was very aware of the layering of cultures. Connecting the bomb-torn city of London to Luxor, Egypt, in her poem The Walls Do Not Fall, she notes that in both places "the shrine lies open to the sky/the rain falls, here, there/sand drifts; eternity endures..." The idea of an eternity enduring many destructions, only to be reborn, is a central theme in Trilogy.

The most challenging aspect of writing the thesis was the degree of research necessary to understand a work as complex and rich as Trilogy. My first task was to create a glossary to the text, identifying the gods, goddesses, biblical and mythical figures, and archeological and astrological references. This was a valuable experience for me as a writer and scholar, forcing me to always keep digging, even when it seemed impossible that I would ever discover the source of a particularly obscure reference. Working with Professor Stanton and the other members of my reading committee was a joy. In fact, I found all of the faculty in the English Department eager to help in any way they could. I know the experience made me a better writer, deepened my commitment to finishing a large project, and strengthened my willingness to persevere through difficulties.
Recent research has shown that children have been increasingly at fault for their parents' divorce. As a result, the plotters believed that removing Hitler from power was the only way to avert a disaster for their nation. They took considerable steps toward this end, including detailed planning, diplomatic communications with Britain, France, the United States, and Russia, and the securing of the military forces they believed would be adequate to achieve their goal.
the plotters no longer had a viable basis for their action. Specifically, the threat of an unwinnable war with Britain, France and the USSR had dissipated. Beyond this, Hitler, whose popularity had been waning in the days when it appeared war was imminent, now again seemed to be an infallible leader. Those in the military who had earlier chosen to move against Hitler could no longer hope to be successful against such a popular leader without a basis for their actions. My paper explores in detail the conspirators' planning and military preparations at home, as well as their diplomatic overtures in the west. Furthermore, it deals briefly with the myriad reasons for the plotters' failure.

I first encountered the Halder conspiracy while reading William Shirer's *The Rise and Fall of the Third Reich*. I found myself fascinated with the idea that, even before the arrival of World War II, there were those in the German military command with the foresight to see that any extended conflict with the West could only end in defeat for their *Reich*. When I later became interested in the Honors program, the choice of a thesis topic was a simple one — Halder's aborted attempt at a *coup d'état* was both interesting and could be treated in the time available. I worked closely with Prof. David Culver over the course of several semesters, and I owe Dr. Culver my sincerest thanks for the many hours he spent reading various (often non-concise) drafts of the paper and discussing them with me. Overall, writing this thesis proved to be one of the most personally rewarding of my experiences at Bridgewater.

**LINDA BOCCUZZO**

*Linda Boccuzzo is currently attending the University of Vermont, where she is a master's candidate in the Department of Plant and Soil Sciences. The focus of her current research is the cold hardiness and phenolic content of apple trees. She intends to pursue a doctorate in this area.*

My honors thesis was completed as part of an ongoing program within the Biology Department. Faculty members seek out upper-class students in the department to aid them in their own research. By the spring of my junior year, I was ready to begin my honors research project. At this time, Dr. F. Hardy Moore was looking for students to help him study the separation and analysis of pigments from sugar beets (Beta vulgaris). Currently, there is not a lot of scientific information about the sugar beet's pigments. Dr. Moore intended to identify the pigments using different forms of light (spectrophotometric analysis). Personally, this research project was a great opportunity because I wanted to attend graduate school to study plant biology.

The project focused on the cellular morphology of the beets. Plant cells are different from those of animals. The major difference is that plant cells are surrounded by a stiff outer wall, which animals lack. This cell wall serves many roles, but mostly provides mechanical support and protection for the plant cell. This wall is composed of polysaccharides that are essentially "glued" together. In order to separate the pigments from the cell, this wall must be removed. What is left after its removal is a membrane-bound sac, known as a protoplast. Within this protoplast there is an organelle known as the vacuole. The vacuole contains stored sugars, water and secondary metabolites. It is here that the pigments are located.

As you can guess, getting to the pigments without damaging them is rather tricky. Extreme care must be taken in any part of the separation. Once the protoplasts are released from their protective cell wall they are extremely vulnerable to damage from salts, changes in pH and physical damage (puncturing).

Dr. Moore was having a problem obtaining a large enough quantity of the protoplasts for analysis. Our research focused on solving this problem. Using beets obtained from the College's greenhouse, we cut and placed them into digestive solutions. These solutions contained a variety of enzymes that would degrade the "glue" holding these walls together. After a number of trials, and by altering environmental (by heat, shaking, etc.) and chemical factors, we determined a protocol that would digest the cell walls efficiently, but would not damage the protoplasts. After their release, the protoplasts were then filtered and placed in a stabilizing medium.

Towards the end of the semester we were achieving a high protoplastic yield. We then attempted the next step in the separation process: removal of the vacuoles from within the protoplasts. This was done using a chemical compound that basically "breaks open" the plasma membrane, and allows the vacuole to escape. We were only able to do this twice before the semester ended and had minimal results with this procedure.

By the semester's end, we had developed a successful protocol for separation and isolation of the protoplasts. This spring, Dr. Moore continued his attempt to isolate and analyze the pigments with a new set of students.