



## ***By the Byzantines:***

Jonathan Chandler, Kayla Fogg, Miranda Hechler, Emory Mullis, & Hannah Vaughan.

## Table of Contents

### I. Birth

#### a. Science -

- i. *The Maternal Brain* – pg 1
- ii. *The Christian Man's Evolution* – pg 15
- iii. *Born Too Soon* –pg 21
- vi. *Should We Really Fear Reproductive Cloning* – pg 25

#### b. Psychology/Sociology

- i. *Poverty: A Cause of Teenage Pregnancy?*-pg 31
- ii. *A Wrongful Birth?*- pg 40

#### c. Visual Arts

##### i. Art – pg 46

##### ii. Music

1. *Rebirthing* – pg 48
2. *The Baby* – pg 50

##### iii. Films

1. *The Curious Case of Benjamin Button* - pg 52
2. *Juno*- pg 56
3. *Knocked Up* – pg 62

#### d. Literature

- i. *Hills Like White Elephants* – Ernest Hemmingway - pg 64
- ii. *How to Get a Baby* – Judith Ortiz Cofer – pg 71
- iii. *Life Gives Birth to Happiness* – Nikhil Parekh – pg 73
- vi. *Just Listening to my Beats* – Nikhil Parekh – pg 76

#### e. History

- i. *The People of the New World* – pg 81
- ii. *American Popular Music* – pg 93

### II. Childhood and Adolescence – pg 109

#### a. Science

- i. *Evolution's Youth Movement* – pg 115
- ii. *New Hope for Defeating Rotavirus* – pg 125
- iii. *Toddlers with autism may focus on co-occurring sounds and motions* – pg 138

#### b. Psychology/Sociology

- i. *The Sexualized Child Enters Adolescence* – pg 143
- ii. *You Can Be Anything You Want to Be* - pg 150
- iii. *Knowledge Deficits* – pg 166

#### c. Visual Arts

##### i. Art – pg 182

##### ii. Music

1. *Letter to Me* – pg 184
2. *Father of Mine* – pg 187
3. *Definitely Maybe* – pg 190

##### iii. Films

1. *The Little Rascals* – pg 194

2. *The Sandlot* - pg 196

d. Literature

i. *On Turning Ten* – Billy Collins – pg 200

ii. *The Little Boy and the Old Man* – Shel Silverstein - pg 202

iii. *Hansel and Gretel* – Brothers Grimm – pg 204

iv. *Araby* – James Joyce – pg 212

v. *Chairman Mao's Good Little Boy* – Liang Heng and Judith Shapiro  
pg 219

vi. *The Parable of the Prodigal Son* – pg 232

e. History

i. *Are Teenagers Necessary* - pg 234

ii. *Child Labor in America's History* - pg 244

III. Romantic Love and Marriage - pg 249

a. Science

i. *Do Opposites Attract* – pg 253

ii. *A Most Private Evolution* – pg 258

b. Psychology/Sociology

i. *Intolerable Reality* – pg 272

ii. *Online Pornography* – pg 287

iii. *Codependency* – pg 306

c. Visual Arts

i. Art – pg 314

ii. Songs

1. *She's Everything* – pg 317

2. *Same Girl* – pg 320

3. *Lips of an Angel* – pg 325

iii. Films

1. *Why Did I Get Married* – pg 327

2. *John Tucker Must Die* - pg 328

3. *The Notebook* – pg 334

d. Literature

i. *Eleonora* – Edgar Allan Poe – pg 341

ii. *Looking for My Prince Charming* – Shalmali Pal – pg 347

iii. *Desiree's Baby* – Kate Chopin – pg 351

iv. *To His Coy Mistress* – Andrew Marvell – pg 357

e. History

i. *Six Wives* – pg 360

ii. *The Companionate Marriage* – pg 374

IV. Mid-Life – pg 384

a. Science

i. *Shutting Down Alzheimer's* – pg 389

ii. *Unlocking the Secrets of Longevity Genes* – pg 402

b. Psychology/Sociology

- i. *Exploitation and Abuse of Older Family Members* – pg 416
    - ii. *Loss and Mourning* – pg 426
  - c. Visual
    - i. Songs
      - 1. *As Good as I Once Was* - pg 438
    - ii. Films
      - 1. *Wild Hogs* - pg 442
      - 2. *Grumpy Old Men* - pg 444
      - 3. *The Bucket List* – pg 448
  - d. Literature
    - i. *The Love Song of J Alfred Prufock* - TS Eliot – pg 454
    - ii. *The Road Not Taken* – Robert Frost – pg 459
    - iii. *Forgetfulness* – Billy Collins – pg 462
    - iv. *The Forgotten Mother* – Ruby Latimer Edwards – pg 464
  - f. History
    - i. *Juan Ponce de Leon* – pg 466
    - ii. *Michael Jackson* – pg 471

#### IV. **Death - pg 474**

- a. Science
  - i. *Beyond the Black Box* – pg 480
  - ii. *How Near-Death Experiences Work* – pg 496
  - iii. *The Fate of the Universe* – pg 502
- b. Psychology/Sociology
  - i. *Help Wanted: A Limited Study of Responses* – pg 516
  - ii. *The Rationality of Suicide* – pg 536
  - iii. *Criminals Are Not Deterred by the Death Penalty* – pg 552
- c. Visual Arts
  - i. Art – pg 563
  - ii. Songs
    - 1. *Live Like You Were Dying* – pg 565
    - 2. *Life is Beautiful* – pg 567
  - iii. Movies
    - 1. *300* – pg 570
    - 2. *Gladiator* – pg 575
- d. Literature
  - i. *The Tell-Tale Heart* – Edgar Allan Poe – pg 582
  - ii. *Richard Corey* – Edwin Arlington Robinson – pg 588
  - iii. *Stopping By Woods On a Snowy Evening* – Robert Frost – pg 590
  - iv. *Because I Could Not Stop for Death* – Emily Dickinson – pg 592
  - v. *The Raven* – Edgar Allan Poe – pg 594
  - vi. *Cinderella* – Brothers Grimm – pg 599
- e. History
  - i. *Daily Life in Medieval Times* -pg 607
  - ii. *Assassination Vacation* – pg 611

Introduction

Byzantines (the best)

April 15, 2009

To this day, I cannot wrap my right-sided brain around why I am looked upon with disgust and a lack of self respect. My goal in life, according to most students is encompassed around making pupils pull their hair out, and most math and science majors deny my significance. If it is still unclear I will go ahead and formally introduce myself as English—a subject either loved or loathed by students. Unfortunately I am everywhere (insert an evil laugh here), and unless one moves to another country where English is not the spoken language, one must learn to live and deal with me for a lifetime. In college, aside from teaching the mechanical nuts and bolts of the English language focus shifts towards how English can be looked at across the disciplines such as in subjects like history, science, math etc. It is to my better judgment that if a student finds a personal interest in an assignment that pupil will become involved with it and enjoy the assignment to some degree. For example, it is very hard to convince a math or science engrossed student that critically reading classic novels like Shakespeare's *Hamlet* or Charles Dickens' *Great Expectations* and looking for rhetorical devices is fun. Like the old phrase "you can lead a horse to water but you can't make him drink", the same applies to bad approaches to leading non-English savvy students to reading. To the members of the jury, my role in the lives of college students may seem mundane and irreverent in teaching the basic mechanics and maneuvers of writing, but the utter opposite is true in which I show the significance of various writing styles across the disciplines, opening the eyes of unwary students to the disciplinary approach which directly relates to the students on a very personal level.

Well, that was a very interesting conversation with...English. Using literary devices such as getting the opinion from "English" in a narrative format is one way to teach the dynamics of the English in a somewhat personal way to get the reader engrossed and involved, almost like having a one-on-one light conversation. (Fogg)

The main goal of this text is to gain the attention of the student and encourage reader involvement. The greatest obstacle of the instructor is to coax students into paying attention to what they have to say. A professor can stand in front of a class full of students and give excellent lectures until he is blue in the face, and no one will learn anything unless their minds are open and they are interested and willing to learn. English as a discipline is difficult to teach because it often seems separated from the interests of those attempting to grasp it. This book will attempt to change that.

The interests of the student are many and varied. A typical textbook assumes that its content is the most important and greatest subject one will ever have the pleasure to learn. It assumes that the reader will, or must learn by the end of the text, believe the same thing. This assumption is wrong. The interests of the student are not something to be overcome, because they are just as important as what is being taught. Using the two in tandem is not only useful to help the student understand the material, but important to show them that everything is interconnected. The world is not split into neat compartments, but mixed all together in a big mixing pot.

English and language are everywhere in the mixing pot. Sometimes they are not easy to see, but they pervade every facet of our lives. If a student has an interest, English is there somewhere. In order to gain the student's attention, this text will connect other topics to English.

Hopefully the reader will be able to connect with the discipline being used enough to become more interested in the language side of it. (Vaughan)

The use of a disciplinary approach in this text is not simply to engage the students' interests, however. The overall goal is to help the student achieve a more comprehensive understanding of the English language and its various uses. By exposing students to written works of science, history, art, sociology, and even literature, we aim to create a well-roundedness among our readers. The types of writing that students encounter outside the English classroom, both at school and at work, can be vastly different from what they were exposed to in their freshmen level composition classes. To be sure, even the English savvy student can gain something from a cross discipline approach. For while the English savvy student may love writing argumentative prose analysis, oftentimes the very same student may find himself/herself dreading a history research paper. The old adage "one man's meat is another man's poison" certainly rings true with regards to English. Undoubtedly, there will be students who want nothing more than to become writers themselves. This text will certainly attempt to encourage these particular students' love of literature and the written word. Yet to all those who sit impatiently in their required composition courses, waiting for the day when they can focus all their attention on their particular field of interest and expertise, this text shall try to accommodate them as well.

Having discussed the philosophy behind this text, let us now turn our attention toward the form, function, and design of this text. In order to more fully drive home the idea of unity between language and life, the book has been arranged into thematic chapters. Each chapter coincides with the necessary chapters of life itself – birth, adolescence, relationships, mid-life,

and death. The five basic disciplines of literature, science, history, art, and sociology/psychology are represented throughout each chapter. (Hechler)

The first chapter will deal directly with birth. The birth of a child is obviously a beautiful time for the parents and everyone around. We will explore some of the works people have done about this stage of life. Many writers have captured this time of life with poems and books of all sorts, scientists study newborn children every day. The history of birth changes constantly with the way babies are delivered and how certain cultures handle newborn children. Many artists have captured birth in paintings and other various ways. The sociology/psychology part of birth can be seen as the effects on the mother, and effects the immediate environment the child is put in has on the rest of its life. Birth is only the start of a life we will explore the next stage in chapter two.

After birth comes the stage of life called adolescence, which is the topic for chapter two. Adolescence brings a period of life where a kid starts to form his own ideas about who he or she wants to be. These new and great ideas children have, often become the focal point of many pieces of literature and artwork. The way the mind and body matures during this part of life is studied by scientists and psychologists in many different ways. Adolescence as a period of children's lives has changed drastically over the years from back when children began working in factories at age four to now when children are supposed to strictly focus on school until their teen years. (Chandler)

The third chapter will focus entirely on relationships. There is no shortage of references dealing with relationships. Trying to find a song about relationships is like trying to find a book in a library, there are plenty to choose from. There are also thousands of books, movies and scientific articles dealing with the subject. The studies about the psychology of relationships and

love will never end because love is such a deep emotion and relationships are vital part of life. I guess that is why it is no surprise that this chapter falls right in the middle of the text book. I feel that this chapter is one that everyone will be able to relate to in one way or another.

Mid-life is a tough thing for me to understand because, well, I have not experienced it yet. But luckily other people have. There are plenty of books, songs, and movies about that mysterious time known as mid-life. I see it as a time when people start to feel old; once you have crossed that half way point. At this time in life people begin to ask questions like, "what have I accomplished?" and "how will people remember me once I am gone?" It is also when people begin to slow down and realize what is really important in life. Whether one decides to start traveling and seeing the world, or just relax and enjoy life and spending time with loved ones, this can be one of the most enjoyable times in life.

This final chapter will be devoted to death. It is amazing that there is so much out there regarding death when no one really knows anything about it. "To fear death, my friends, is only to think ourselves wise, without being wise: for it is to think that we know what we do not know. For anything that men can tell, death may be the greatest good that can happen to them: but they fear it as if they knew quite well that it was the greatest of evils. And what is this but that shameful ignorance of thinking that we know what we do not know?" (Socrates)

This chapter will discuss the mysterious beauty of death. Everyone will experience it eventually but once you have you cannot share your experience with anyone. That's why it is a mystery. We fear what we do not know, but is death necessarily a bad thing? What is life without death? We will let you decide these things for yourself while showing you the conclusion that others have come to. (Mullis)

**Chapter 1**

**BIRTH**



**“The hour which gives us life begins to take it away.”**

**Seneca**



“Birth is the sudden opening of a window, through which you look out upon a stupendous prospect. For what has happened? A miracle. You have exchanged nothing for the possibility of everything.”

-William MacNeile Dixon

Birth medically is defined as the process of bearing or bringing forth offspring, metaphorically means the beginning of a natural phenomenon one that is impressive in scope or complexity. Birth can mean many different things to a variety of people. To the soon to be mother being wheeled down the hospital hallway to a crowded delivery room, and to the soon to be father with sweaty palms pacing back and forth awaiting the arrival of his pride and joy it can mean meeting the special little one they have been caring for and thinking of for the past nine months. Now someone else's needs will come before your own and a peaceful night's sleep will be a thing of the past. There will be many bottles, diapers, and baby wipes. There will also be a calming gentle smile, a special coo, and a lifetime of unconditional love.

To historians, birth could represent the beginning of something in history that is so significant that it will be written about and talked about for centuries to come. Two examples of

To historians, birth could represent the beginning of something in history that is so significant that it will be written about and talked about for centuries to come. Two examples of this that are covered in this chapter are the “birth” of a nation when Christopher Columbus discovered the Americas and the cultural phenomenon the “birth” of rock and roll music. Both of these events in history have books upon books written about them and are sure to have plenty more to be written about them.

There are many scientific things that can be discussed about birth. One source found in this chapter is called *The Maternal Brain*. It basically focuses on how mothers do not really have the motherly instincts until they actually become mothers. Another source is called *Born to Soon*. *Born to Soon* is a scientific article about the causes and effects of premature births. Other areas covered include the controversial topic of cloning.

Birth is such a beautiful thing that many writers have seized the opportunity to capture the moment in a poem or a book. To the literary minded person birth could represent works like *Hills Like White Elephants* and *How to Get a Baby*. In *Hills Like White Elephants* a couple debates the tough topic of abortion. In *How to Get a Baby* Judith Cofer describes a unique way a woman became pregnant. There are also numerous other works of literature that have to do with birth and some are found throughout this chapter.

Psychological and Sociological minds will be intrigued by our article about teenage pregnancy. The article argues that poverty is a huge cause of teenage pregnancy. It also argues how welfare is involved in pregnancy. The next article also has to do with pregnancies. It talks about abortions with couples that had planned pregnancies. The issue is with children that will be

born with birth defects and possibly Down syndrome. The parents chose to have an abortion rather than care for the child when it is born.

In the Visual Arts and Media section you will find articles about paintings, music, and movies. For example in the music section you will see songs like Blake Shelton's "The Baby" and Skillet's "Rebirthing." Both songs are about birth and "The Baby" shows how a mother loves their child no matter what happens. In the movie section we chose to look at Juno and Knocked Up. Juno and Knocked Up both follow a expectant mother through the nine month pregnancy process up to the point they actually have the child.

No matter what your interest is in the process of birth, you will find it in this chapter. I hope you enjoy reading all the various sources found throughout the book.

As children, we understood that our mom's were always watching us like a hawk, waiting to step in and administer guidance, punishment, or even protection. The maternal instinct is not always the sort of thing that children can appreciate. While almost all mothers seem to have this sixth sense for parenting, the reasons why have been alluding us for quite some time. In "The Maternal Brain," author Craig Kinsley presents emerging information on the development of a mother's brain after giving birth that could help shed some light on moms spend so much time caring for their young.

## *The Maternal Brain*

Mothers are made, not born. Virtually all female mammals, from rats to monkeys to humans, undergo fundamental behavioral changes during pregnancy and motherhood. What was once a largely self-directed organism devoted to its own needs and survival becomes one focused on the care and well-being of its offspring. Although scientists have long observed and marveled at this transition, only now are they beginning to understand what causes it. New research indicates that the dramatic hormonal fluctuations that occur during pregnancy, birth and lactation may remodel the female brain, increasing the size of neurons in some regions and producing structural changes in others.

Some of these sites are involved in regulating maternal behaviors such as building nests, grooming young and protecting them from predators. Other affected regions, though, control memory, learning, and responses to fear and stress. Recent experiments have shown that mother rats outperform virgins in navigating mazes and capturing prey. In

addition to motivating females toward caring for their offspring, the hormone induced brain changes may enhance a mother rat's foraging abilities, giving her pups a better chance of survival. What is more, the cognitive benefits appear to be long-lasting, persisting until the mother rats enter old age.

Although studies of this phenomenon have so far focused on rodents, it is likely that human females also gain long-lasting mental benefits from motherhood. Most mammals share similar maternal behaviors, which are probably controlled by the same brain regions in both humans and rats. In fact, some researchers have suggested that the development of maternal behavior was one of the main drivers for the evolution of the mammalian brain. As mammals arose from their reptile forebears, their reproductive strategy shifted from drop-the-eggs and-flee to defend-the-nest, and the selective advantages of the latter approach may have favored the emergence of hormonal brain changes and the resulting beneficial behaviors. The hand--or paw--that rocks the cradle indeed rules the world.

### **Awash in Hormones**

HALF A CENTURY AGO scientists found the first hints that the hormones of pregnancy spur a female mammal's ardor for its offspring. Starting in the 1940s, Frank A. Beach of Yale University showed that estrogen and progesterone, the female reproductive hormones, regulate responses such as aggression and sexuality in rats, hamsters, cats and dogs. Further pioneering work by Daniel S. Lehrman and Jay S. Rosenblatt, then at the Institute of Animal Behavior at Rutgers University, demonstrated that the same hormones were required for the display of maternal behavior in rats. In 1984 Robert S. Bridges, now at the Tufts Cummings School of Veterinary Medicine, reported that the production of

estrogen and progesterone increased at certain points during pregnancy and that the appearance of maternal behavior depended on the interplay of the hormones and their eventual decrease. Bridges and his colleagues went on to show that prolactin, the lactation-inducing hormone, stimulated maternal behavior in female rats already primed with progesterone and estrogen.

Besides hormones, other chemicals affecting the nervous system appear to play a role in triggering motherly impulses. In 1980 Alan R. Gintzler of the State University of New York Downstate Medical Center reported increases in endorphins--painkilling proteins produced by the pituitary gland and the brain region called the hypothalamus--over the course of a rat's pregnancy, especially just before birth. In addition to preparing the mother for the discomfort of birth, the endorphins may initiate maternal behavior. Taken together, the data demonstrate that the regulation of this behavior requires the coordination of many hormonal and neurochemical systems and that the female brain is exquisitely responsive to the changes that occur with pregnancy.

Scientists have also identified the brain regions that govern maternal behavior. Michael Numan and Marilyn Numan of Boston College have shown that a part of the hypothalamus in the female brain, the medial preoptic area (mPOA), is largely responsible for this activity; creating a lesion in the mPOA or injecting morphine into the region will disrupt the characteristic behavior of mother rats. But other areas of the brain are also involved [see 'THINKING FOR TWO'], and each of these sites is rife with receptors for hormones and other neurochemicals. Noted neuroscientist Paul MacLean of the National Institute of Mental Health has proposed that the neural pathways from the thalamus, the

brain's relay station, to the cingulate cortex, which regulates emotions, are an important part of the maternal behavior system. Damaging the cingulate cortex in mother rats eliminates their maternal behavior. In his 1990 book *The Triune Brain in Evolution*, MacLean hypothesized that the development of these pathways helped to shape the mammalian brain as it evolved from the simpler reptilian brain.

Interestingly, once the reproductive hormones initiate the maternal response, the brain's dependency on them seems to diminish, and the offspring alone can stimulate maternal behavior. Although a newly born mammal is a demanding little creature, unappealing on many levels--it is smelly, helpless and sleeps only intermittently--the mother's devotion to it is the most motivated of all animal displays, exceeding even sexual behavior and feeding. Joan I. Morrell of Rutgers has suggested that the offspring themselves may be the reward that reinforces maternal behavior. When given the choice between cocaine and newly born pups, mother rats choose pups.

Craig Ferris of the University of Massachusetts Medical School recently studied the brains of lactating mother rats using functional magnetic resonance imaging (fMRI), a noninvasive technique that tracks changes in brain activity. Ferris found that activity in the mother's nucleus accumbens, a site that is integral to reinforcement and reward, increased significantly when she nursed her pups. And Ronald J. Gandelman of Rutgers has shown that when a mother mouse is given the opportunity to receive foster pups--the mouse presses a bar in her cage, causing the pups to slide down a chute--the mother will keep pressing the bar until her cage fills with the squirming, pink objects.

Several researchers have hypothesized that as suckling pups attach to their mother's nipples, they may release tiny amounts of endorphins in the mother's body. These natural painkillers may act somewhat like an opiate drug, drawing the mother again and again to contact with her pups. Suckling and pup contact also release the hormone oxytocin, which may have a similar effect on the mother. Lower mammalian species such as mice and rats, which most likely lack the lofty principles and motivations of humans, may care for their pups for the simple reason that it feels good to do so.

But what about the motivations of the human mother? Jeffrey P. Lorberbaum of the Medical University of South Carolina has used fMRI to examine the brains of human mothers as they listened to their babies cry. The patterns of activity were similar to those of the rodent mothers, with the mPOA region of the hypothalamus and the prefrontal and orbitofrontal cortices all lighting up. Furthermore, Andreas Bartels and Semir Zeki of University College London found that the brain areas that regulate reward became activated when human mothers merely gazed at their children. The similarity between the human and rodent responses suggests the existence of a general maternal circuit in the mammalian brain.

### **Brain Changes**

TO UNDERSTAND THE WORKINGS of this circuit, researchers have studied how the female brain changes at different reproductive stages. In the 1970s Marian C. Diamond of the University of California, Berkeley, provided some of the earliest evidence while investigating the cortices of pregnant rats. The outermost layer of the brain, the cortex receives and processes sensory information and also controls voluntary movements. Rats

Hechler

raised in enriched sensory environments, surrounded by wheels, toys and tunnels, typically develop more intricately folded cortices than rats housed in bare cages. Diamond, however, found that the cortices of pregnant rats from impoverished environments were just as complex as those of the female rats from enriched settings. She concluded that some combination of hormones and fetus-related factors were most likely stimulating the pregnant rats' brains.

Two decades later, after studies demonstrated the importance of the mPOA to maternal behavior, investigators began looking for changes to that brain region. In the mid-1990s Lori Keyser, a researcher in one of our laboratories (Kinsley's) at the University of Richmond, showed that the cell bodies of the neurons in the mPOA of pregnant rats increase in volume. What is more, the length and number of dendrites (the signal-receiving branches extending from the cell body) in mPOA neurons increase as the pregnancy progresses. The same changes were also observed in female rats treated with a pregnancy-mimicking regimen of progesterone and estradiol, the most powerful of the natural estrogens. These neuronal alterations typically accompany a rise in protein synthesis and activity. In essence, the hormones of pregnancy "rev up" the mPOA neurons in anticipation of birth and the demands of motherhood. The nerve cells are like thoroughbreds straining at the starting gate, awaiting their release for the race. After birth, the mPOA neurons direct the mother's attention and motivation to her offspring, enabling her to care for, protect and nurture her progeny with the panoply of behaviors known collectively as maternal.

Maternal behavior encompasses many facets beyond the direct care of offspring, however, so it occurred to us that other brain regions might also undergo changes. For

instance, a mother rat has to take risks to tend her nest and young. She must frequently leave the relative safety of the nest to forage for food, making herself and her helpless offspring more vulnerable to predators, because if she stays in the nest, she and her brood will slowly starve. We can predict two cognitive changes that would improve the mother rat's cost-benefit ratio. First, an enhancement of her foraging skills--for example, the spatial ability used for navigating her environment--would minimize the amount of time she is away from the nest. Second, a diminution of the rat's fear and anxiety would make it easier for her to leave the nest, allow her to forage faster, and steel her for confrontations with her hostile surroundings.

In 1999 we found support for the first prediction by showing that reproductive experience enhanced spatial learning and memory in rats. Young females that had experienced one or two pregnancies were much better than age-matched virgin rats at remembering the location of a food reward in two different kinds of mazes: an eight-arm radial maze and a dry-land version of the Morris water maze, a large, circular enclosure with nine baited food wells. The improved foraging abilities were observed in both lactating females and mothers at least two weeks removed from weaning their young. Furthermore, virgin females provided with foster young performed similarly to lactating females. This result suggests that simply the presence of offspring can provide a boost to spatial memory, perhaps by stimulating brain activities that alter neuronal structures or by prompting the secretion of oxytocin.

Are other features of the mothers' hunting skills also enhanced? Recent work by undergraduates Naomi Hester, Natalie Karp and Angela Orthmeyer in Kinsley's lab has