The Pulse

Undergraduate Journal of Baylor University

VOLUME 7 NUMBER 2 SPRING 2010

Scientia Crescat

Honors College
Baylor University
Waco, Texas

CONTENTS

Foreword vi

Modeling Turbulent Financial Derivatives: A Strategy of Nonuniform Schemes for the Black-Scholes Equation in Finance **1**
MYLES D. BAKER AND DANIEL D. SHENG

In 1973 Fisher Black and Myron Scholes published their landmark paper, for which Scholes won a Nobel Prize in Economics in 1997. The equation they proposed has been used extensively to model option pricing in financial markets around the world, although volatility of such markets can create irregular solutions when turbulence is involved. How can we predict which investments may provide considerable returns, and what impact numerical approximations of the equation may have when irregularities exist? This paper introduces a measurable difference between the uniform and nonuniform explicit, implicit, and leapfrog numerical schemes used for approximating numerical partial differential equations (PDEs). We show that the nonuniform algorithms are far superior to their counterparts in turbulent situations.

Canopy Use in a Temporal Aspect by the Mantled Howler Monkey (*Alouatta palliata*) in Costa Rica **17**
TIMOTHY BRANSFORD

This study looks at the mantled howler monkey's (Alouatta palliata) *use of forest layers during different times of the day. We hypothesized that mantled howler monkeys would use the upper layers of the forest during the morning for thermoregulation and that they would descend during all times of the day to the lower layers of the forest to feed where more abundant food sources are located. We used scan sampling and instantaneous focal sampling to collect data on 61 scans. During the morning hours, the mantled howler monkeys rested in the upper layers of the forest over 50% of the time, supporting the hypothesis for thermoregulation. Also, for four out of five time periods, the mantled howler monkeys spent at least 70% of feeding time at lower levels of the forest. Lack of competition between primate species at the study site could be the reason the lower canopy was utilized more often for feeding.*

Words Made Flesh: Isaac Watts, Walter Ong, and the *Communitas* of Hymnody.....26
KEVIN GEORGAS

Isaac Watts, the Father of English Hymnody, composed original hymns with Hebrew poetic style, staying true to the style of Scripture in order to enable congregants to understand a deeper importance of worship through song. This paper shows the connection between Walter Ong's theories about literary and oral expression and community, and Isaac Watts's hymns creating community among congregations through singing worship.

Making Sense of Federal Campaign Finance Reform: An Overview of Legislation, Litigation, and Structural Flaws.....42
MATTHEW HRNA

Throughout American history, federal campaign finance regulations have undergone numerous reforms both in Congress and in the Supreme Court. Each modification came with loopholes and structural flaws which in turn motivated new revisions. This paper summarizes the key developments in campaign finance reform, analyzing the causes and effects of major legislation and litigation and concluding with a discussion of flaws that remain in the regulations today.

***Et in Arcadia Ego*: Convergent Literary Traditions.....67**
ANNA MARIE SITZ

Nicolas Poussin draws on the literary traditions of Arcadia and the memento mori *in both his Louvre* Et in Arcadia Ego *and Chatsworth* Arcadian Shepherds. *The artist's use of the Arcadian tradition portrays an idealized life, even as he incorporates death through the* memento mori topos. *Poussin's* Arcadian Shepherds *reflects medieval commonplaces surrounding the* memento mori *tradition; however, his* Et in Arcadia Ego *rejects a Christian understanding of* memento mori *in favor of a philosophic tradition expressed in Michel de Montaigne's Stoic-influenced writings.*

About the Authors..... 82

Cover art is an original etching (Intaglio print) by Maria Petrozzi.

FOREWORD

In its mission to promote, publish, and celebrate noteworthy undergraduate research in all disciplines, *The Pulse* continues to give young scholars the opportunity to anounce their ideas and findings on a greater platform.

These unchanging elements express *The Pulse*'s devotion to its craft and to the researchers whose work appears in these pages. *The Pulse*, however, does not forget its motto, *Scientia Crescat*. In order to let knowledge grow, *The Pulse* seeks to extend the journal's accessibility by offering year-round online submission on our website, www.baylor.edu/pulse. We hope this opportunity will encourage a greater number of students across Baylor's many disciplines to contribute. This year's 45 submissions, resulting in an 11 percent acceptance rate, testify to the extent and diversity of research produced by Baylor undergraduates.

From Maria Petrozzi's stunning Intaglio cover art and through each peer-reviewed essay, this edition captures the variety and the quality of original student research going on at Baylor. Myles Baker solves complex problems associated with the use of the Black-Scholes equation in the financial world. Tim Bransford travelled to Costa Rica to examine the behaviors of mantled howler monkeys in their natural habitat; he presents here the findings of his on-site investigation. Kevin Georgas offers an insightful reading of Isaac Watts's hymns in the light of Walter Ong's orality theory. Matthew Hrna lucidly explains the historical development of campaign finance reform. Lastly, Anna Sitz unpacks with precision the literary and artistic traditions informing two Poussin paintings. According to our usual practice in this multidisciplinary publication, each paper uses the documentation style appropriate to its discipline.

None of this could be possible without the work of *The Pulse's* dedicated staff. The editorial board reviewed dozens of submissions all year long and worked closely with the authors to prepare their papers for publication. The publicity staff prepared calls for papers, fliers, and press releases as well as writing this year's Faculty Features. Our savvy technical staff handled the journal's typesetting and web maintenance. We are especially proud of the professionalism and good will exhibited by the staff, who willingly efface themselves in a joyful collaboration to publish the exemplary work of their peers.

We would like to extend thanks to Baylor University's Honors College for its support with our printing costs. We would also like to thank Phi Beta Kappa, Zeta of Texas, for sponsoring the Wallace L. Daniel Award for Undergraduate Writing, given to the top paper in *The Pulse* for the year. The winner of this award also presents the annual *Pulse* Student Lecture, sponsored by the Honors Residential College.

This year, for the first time, the Wallace Daniel Award goes to the author of a paper published in the fall online edition. This year's winner, Josh Jeffrey, is honored for his paper on "Dante, Aquinas, and Trajan: Reconciling Freedom and Orthodoxy in *The Divine Comedy*" published in our special Religion edition, Fall 2009.

After reading this issue, please visit us at www.baylor.edu/pulse and check our full archive of issues online, especially the recent Religion edition including Josh's prize-winning paper. While you are there, you can take a look at the new Faculty Features and even submit a paper for next fall's special edition in History to be published online November 2010.

Andrej Pogribny
President

Sarah Casey
Chief Editor

Dr. Susan Colón
Faculty Sponsor

In 1973 Fisher Black and Myron Scholes published their landmark paper, for which Scholes won a Nobel Prize in Economics in 1997. The equation they proposed has been used extensively to model option pricing in financial markets around the world, although volatility of such markets can create irregular solutions when turbulence is involved. How can we predict which investments may provide considerable returns, and what impact numerical approximations of the equation may have when irregularities exist? This paper introduces a measurable difference between the uniform and nonuniform explicit, implicit, and leapfrog numerical schemes used for approximating numerical partial differential equations (PDEs). We show that the nonuniform algorithms are far superior to their counterparts in turbulent situations.

Modeling Turbulent Financial Derivatives: A Strategy of Nonuniform Schemes for the Black-Scholes Equation in Finance

Myles D. Baker and Daniel D. Sheng

Introduction

The robustness of the Black-Scholes equation accounts for its popularity; since its introduction, and critical reception about 40 years ago, the Black-Scholes partial differential equation has been implemented in the analysis of option pricing worldwide.[1] It can be adjusted to deal with various situations in financial markets, and it revolutionizes the process of considering parameters, such as volatility or interest rates, as variables in the equation rather than the traditional approach of treating them as constants. With this new perspective, variable parameters can be seen as added sources of risk, which can be hedged to mitigate the risk incurred during periods of market turbulence. These strategies have been used in stock exchanges worldwide to capture extreme movements such as stock market crashes.

We define a function $f = f(x, t)$ where x represents the value of an asset price at a particular time t on the options market. This assignment declares the function f as dependent on the two variables. A Black-Scholes equation can be derived as a series of rates that describe how

the function changes in respect to space and time, which can be represented in the following form

$$f_t(x, t) + a f_{xx}(x, t) + \beta f_x(x, t) - \gamma f(x, t) = 0, \qquad (1.1)$$

where $f_t(x, t)$ is the first partial derivative of $f(x, t)$ in respect to the time, while $f_x(x, t)$ and $f_{xx}(x, t)$ likewise designate the first and second partial derivatives of $f(x, t)$ in respect to the space.[2] These derivatives illustrate various kinds of financial rates of changes attributed to option values and are called *financial derivatives*.[3] A scientific combination of them yields the Black-Scholes partial differential equation (1.1). For the sake of simplicity in this discussion, we say that $t \geq 0$.

In order to find a possible solution of the Black-Scholes partial differential equation, we need a domain of space and time for which proper finite difference approximations can be introduced. The domain, denoted as D, is a two-dimensional region collecting all the elements of the space X and time T. (See Figure 1.1). We may consider D as a rectangular figure with an open top, where the horizontal axis x lies between–and includes–the values 0 and 1, while the vertical axis t is only limited when a particular time interval is adopted. In other words, we may say that D is bounded in the x-direction and unbounded in the t-direction. Domain D is in fact the physical region where a solution to (1.1) is considered. However, we still need suitable initial and boundary conditions for uniquely determining a solution of (1.1) in D.

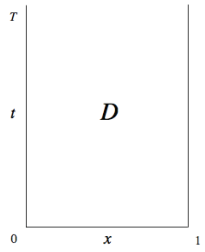

Figure 1.1. An illustration of the domain D with constraints $0 \leq x \leq 1$ and $0 \leq t \leq T < \infty$.

A finite difference scheme cannot work directly on D. To solve (1.1) on D using our numerical strategies, we will have to discretize it. That is, D needs to be partitioned into a discrete mesh, and as we will show, the way the mesh is constructed influences subsequent numerical solutions in profound ways. First, we must divide each respective axis

into an arbitrary number of pieces with some distances, or step sizes, between them. This process introduces a fundamental issue addressed in this paper: is there a major difference between algorithms that work with the assumption that these step sizes are the same and those that do not, and how can we measure the consequences?

Let $h_1, h_2, ..., h_{n-1}$ denote such steps in the space direction, where i indicates the ith particular step size used from the set of numbers $X(n) = \{0, 1, 2, ..., n - 1\}$. If we employ a uniform discretization, then all h_i are the same, whereas a nonuniform discretization assumes that the step sizes are, in general, different. A comparison of the two discretization methods can be seen in Figure 1.2. Without loss of generality, the same partitioning occurs with temporal step sizes, which can be denoted as τ_j for index j from the set $T(m) = \{0, 1, 2, ...,m-1\}$. Thus, uniformity means that every step size between any neighboring two grid lines is equal, while nonuniformity does not make this assumption. As we will see later in greater detail, as all step sizes become equal in all respective directions, a special case of nonuniform discretization becomes uniform. The result of a discretization of D is a mesh, or grid. We may let D_u represent a uniform mesh created by a uniform discretization along the space and time directions. Once a nonuniform discretization is applied, the subsequent nonuniform mesh can be denoted as D_n. (See Figure 1.3).

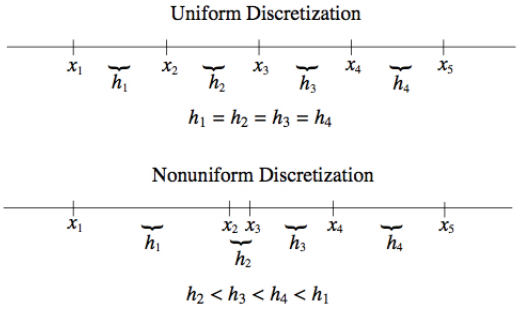

Figure 1.2. This figure contrasts the partitioning of the spatial grid in uniform and nonuniform ways. Note that, while the step sizes may be chosen differently, their combinations are the same in each direction involved.

Any grid point on a two-dimensional mesh can be represented as $P_{i,j}$, corresponding to the location (x_i, t_j) on either grid D_u or D_n. Exterior points are those that lie on a boundary where either i = 0, n or

j = 0, and similarly, interior points are those points which are not on the boundary. A finite difference method can be applied for solving the differential equation (1.1) on D_u or D_n within D.[4] We may notice that, while D contains an infinite number of points, a discrete domain, such as D_u or D_n, contains only a finite number of points within D. This is why we often use the term *finite* in numerical computations. This not only indicates that a numerical solution is only an approximation of the exact solution, but also makes many complicated partial differential equations, such as (1.1), solvable. Based on the discretization, analysis and predictions via modern computers are practicable, so far as the accuracy of data processing and calculations are guaranteed.[5]

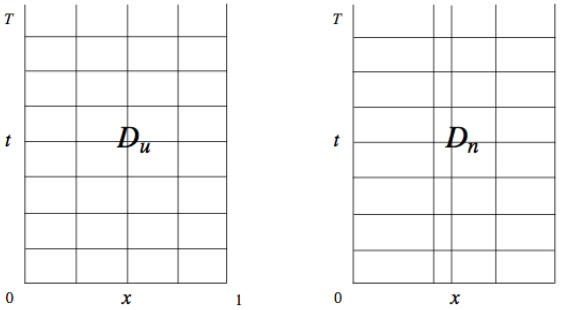

Figure 1.3. *LEFT: An uniform mesh D_u; RIGHT: A nonuniform mesh D_n.*

The goal of this article is to present the basic ideas of nonuniform methods and numerical validations for those who are interested in the field of computational finance without the technical background from computational mathematics and numerical analysis necessary to understand them. It is our desire to cultivate a greater understanding of research in mathematics at the undergraduate level.

Uniform and Nonuniform Approximations

As soon as a mesh, on which the numerical solution is assumed, is established, we can move ahead for solving the equation (1.1) numerically. Our task is to seek a reasonable set of digital data that satisfies (1.1) on each of the internal points of the mesh. This leads to the so-called finite difference schemes which generate the expected values over the mesh, and approximate the exact solution defined on the original domain D.

In single-variable calculus, the definition of a derivative is given as a limit. Similarly, partial derivatives are limits when several variables, or parameters, are present.[6] In fact, a derivative in general represents the slope of a particular point on a curve or surface in a space, given that the curve or surface is smooth enough.[7] For example, the first order partial derivative in space can be defined as

$$f_x(x,t) = \lim_{h\to 0} \frac{f(x+h,t) - f(x,t)}{h}. \tag{2.1}$$

To approximate the above derivative at a particular point on the smooth surface $z = f(x, t)$, we may pick another point in the spatial direction on the same surface. The function is evaluated at the two points, respectively. Let their difference be calculated and then divided by the distance between the two points in the spatial direction (or spatial displacement), that is,

$$f_x(x,t) \approx \frac{f(x+h,t) - f(x,t)}{h}. \tag{2.2}$$

If h > 0, then we call (2.2) a *forward finite difference*, while it is a *backward finite difference* when $h < 0$. Denote $f(x_i, t_j) = f_{i,j}$ for any internal mesh point $P_{i,i}$. Let $h_i = x_{i+1} - x_i$. Then (2.2) can be rewritten as

$$(f_x)_{i,j} \approx \frac{f_{i+1,j} - f_{i,j}}{x_{i+1} - x_i} = \frac{f_{i+1,j} - f_{i,j}}{h_i}.$$

Other kinds of finite differences, such as central differences, can also be defined. The term finite difference originates from the small size and finite number of step sizes that are used to derive the formulas. This research assumes that all step sizes are sufficiently small so the above definitions are valid. Other types of finite difference formulas are similar, but different from (2.2).[8]

Notice that only the first order partial derivative in time is utilized in (1.1); therefore a uniform step size setting in the temporal direction should be sufficient.[9] On the other hand, to approximate the second derivative of space in (1.1), we must select a nonuniform grid in which all spatial step sizes are distinct. Denote such a special two-dimensional nonuniform grid as $D_{h,\tau}$. It possesses a set of nonuniform step sizes in space and a unique step size in time.

To explore the basic accuracy of a finite difference scheme, we need to calculate the truncation error anticipated, as well as the order of

accuracy and consistency of the approximations.[10] For this purpose, let us review a Taylor expansion with a remainder term ξ:[11]

$$f(x) \approx f(c)+f'(c)(x-c)+\frac{f''(c)}{2!}(x-c)^2+\cdots+\frac{f^{(n)}(c)}{n!}(x-c)^n+\frac{f^{(n+1)}(\xi)}{(n+1)!}(\xi-c)^{n+1}. \tag{2.3}$$

Ideally, each term after $f(c)$ on the right decays and thus the expansion converges to $f(c)$ as x tends to c. Dropping the remainder, the truncated expansion may be improved as n increases. The maximal possible quantity of the absolute values of the remainder is often defined as the truncation error of a truncated expansion. In Figure 2.1, we plot the graphs of the exact functions and their corresponding truncated Taylor's expansions. We can observe that the truncation errors are nontrivial, especially when the values of x are far away from the value of c.

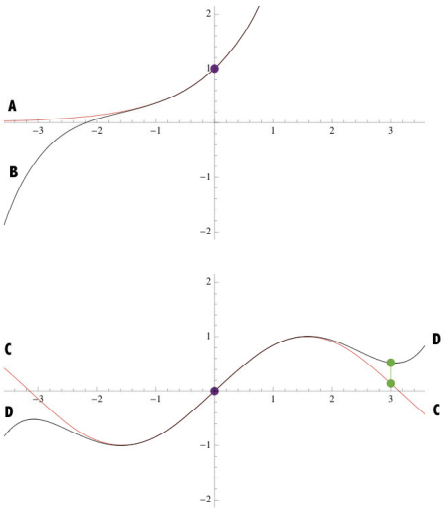

Figure 2.1

TOP: Truncated Taylor expansion for $f(x) = e^x$: $T(x) = 1 + x + \frac{x^2}{2!} + \frac{x^3}{3!} + \frac{x^4}{4!} + \frac{\xi^5}{5!}$.
BOTTOM:Truncated Taylor Expansion for $f(x) = \sin(x)$: $T(x) = x - \frac{x^3}{3!} + \frac{\xi^5}{5!}$

In Figure 2.1, the curves A and C represent the exact functions, while curves B and D are truncated Taylor expansions taken to the fifth order. Note that the truncation error, $|\,\mathrm{err_P}\,| = |f(P)-T(P)|$, is relatively

small near $x = c = 0$. For large $|x|$ values, the truncation errors can be significant. Say, we have $|\text{err}_3| = |f(3) - T(3)| = |0.14112 - 0.525| \approx 0.38388$ when a typical harmonic function is used. A truncation error is a local error.[12] A *global error* can be acquired when all possible errors, err_P , are added together in some sense.[13]

Truncation errors are extremely critical to the analysis of finite difference methods used for solving the differential equation (1.1) on $D_{h,\tau}$. In [2], we adopt the following notations and estimates: let $B(f)(x_i, t_j)$ be the Black-Scholes equation operator defined in (1.1) and Bh, $(f_{i,j})$ be its finite difference approximation, that is, its finite difference scheme, defined on $D_{h,\tau}$. Consider the truncation error between the two equation operators,

$$|\text{err}(f)_{i,j}| = |B(f)(x_i, t_j) - B_{h,\tau}(f_{i,j})|. \tag{2.4}$$

Addtionally, we may show that

$$|\text{err}(f)_{i,j}| = O(h^p + \tau^q), \quad p, q > 0, \tag{2.5}$$

where $h = \max\{h_1, h_2, \ldots, h_{n-1}\}$. The "Big O" notation used, $O(h^p + \tau^q)$, says that the approximation converges at least as rapidly as $h^p + \tau^q$ when both h and τ tend to zero.[14] Of course, the above estimate (2.5) is restricted to the domain $D_{h,\tau}$. Further, the *order of accuracy* r is defined as $r = \min(p, q)$, which states that an approximation error decays at the same rate or at least as fast as h^p or τ^q decay.

Note that, because h and τ are small positive values, their squares are quadratically smaller than the original values, so an order of convergence of two indicates a better approximation than a linear order. We may also consider the order of accuracy of certain schemes to be of *order* -(p, q). Finite difference methods are only practically meaningful when p and q are positive. In fact, we say that a finite difference approximation $B_{h,\tau}$ is called *consistent* if it has an order $r > 0$.

Main Results

Now that our domains and methodologies for evaluating the algorithm accuracies have been introduced, we may step forward with varying difference methods, or schemes, for solving the differential equation (1.1). In our study and experiments, we have constructed three major different methods. Each of them yields a numerical solution in a slightly different way computationally. The numerical solutions are

consistent. The three numerical schemes built are the *explicit*, *implicit*, and *leapfrog schemes*.[15] The three numerical methods have different orders of accuracies and truncation errors. They represent algorithms that can be used to solve the Black-Scholes partial differential equation (1.1) efficiently.[16] Herewith we show stencils of the three finite difference schemes in Figure 3.1 as an illustration.

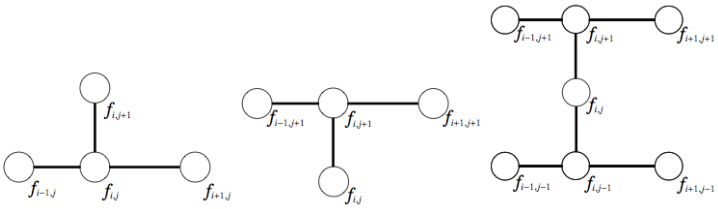

Figure 3.1.
LEFT: The stencil of the explicit scheme: it uses previous time level solutions to reach the targeted value on the next time level.
CENTER: The stencil of the implicit scheme: the equations generated must be solved together as a system for values on the next time level.
RIGHT: The stencil of the leapfrog scheme: it uses a middle value for approximations and stays between an explicit and an implicit methods.

An explicit scheme is an algorithm we can solve without special manipulations of the form of the equation. This is similar to the definition of explicit solutions of differential equations which can be evaluated conveniently and written as $y = f(x)$. Some frequently used explicit solutions include

$$f(x) = 2x^3 + x \quad \text{and} \quad g(x) = \ln(\cot^{-1} x) + \sin(e^x).$$

The power of an explicit scheme is that it can be solved quickly with relatively fewer computational resources.

Look at the explicit scheme stencil shown in Figure 3.1. A computer program can easily be written to initiate a scheme where $j = 0$, or along the bottom boundary of $D_{h,\tau}$. Once all of the values at $j = 0$ are obtained, the scheme can apply these values to compute unknown solution values one step level higher on the mesh, that is, $f_{i,1}$. From there, another loop can be formed for solution values at $j = 1$. We repeat the procedure along each spatial grid point in space until the highest time level desired. Thus the partial differential equation is solved.

On the other hand, an implicit solution is a function solving a given equation. Implicit finite difference schemes are approximation formulas one cannot solve easily. This is similar to the implicit differentiation

processes in calculus: we cannot find $f(x)$ in one step, so we will have to use the chain rule. Sometimes, based on the nature of solving for an implicit scheme, we end up with a large number of equations to solve together. This is called a system of equations. Iterative methods are often needed to solve such problems, and the implicit schemes implemented are more difficult to solve and taxing on computational resources to solve than explicit schemes. An advantage of implicit schemes, however, is their stability in numerical computations which prevents the loss of precision in numerical calculations.[17] Examples of some frequently used implicit functions are

$$f(x)^2 = 1 - x^2 + e^{f(x)} \quad \text{and} \quad \ln|g(x)| = 3x + \frac{g(x)}{5}.$$

Observe the stencil of our implicit scheme in Figure 3.1. Unlike the explicit scheme, we need to traverse the entirety of the domain and solve every point on the mesh using what values we know: the boundary conditions. Notice that since the algorithm contains three unknown values, we cannot solve explicitly for the next level on the mesh. A system of linear solvers is required. Solutions over the entire spatial domain need to be evaluated at the same time, and then the solution of the differential equation can be advanced.[18]

Our research indicates that implicit algorithms can be utilized on both uniform and nonuniform grids to solve the Black-Scholes differential equation (1.1). Note that the rate of convergence of the implicit algorithm is the same as that of the explicit scheme.

The leapfrog scheme we have developed can be viewed as some sort of combination of both the explicit and implicit schemes. The algorithm alternates between using straightforward and indirect solution methods, and then compares the values in an indistinct average. Consider the stencil shown in Figure 3.1. The domain is traversed in the same way as the explicit and implicit schemes, just alternating as if playing the game Leap-Frog. Let $h = \max\{h_1, h_2, \ldots, h_{n-1}\}$ on $\mathrm{D}_{\mathrm{h},\tau}$. We may state:

1. For the explicit finite difference scheme we have the following truncation error estimate:

$$\mathrm{err}_E(f)_{i,j} = O(h + \tau).$$

Therefore, the explicit scheme is of first order. This indicates that the explicit algorithm converges at an order of one on any nonuniform grid.

2. If the local spatial grid region is uniform, that is, $h_i = h_{i-1} = h > 0$, then we have

$$\mathrm{err}_E(f)_{i,j} = O\left(h^2 + \tau\right).$$

Therefore, the explicit scheme becomes second order in space locally. This indicates that if a uniform mesh is used, the explicit algorithm will not fail, but instead converge at a faster rate.

3. For the implicit finite difference scheme we have the following truncation error estimate:

$$\mathrm{err}_I(f)_{i,j} = O\left(h + \tau\right).$$

Therefore, the implicit scheme is of first order.

4. If the local spatial grid region is uniform, that is, $h_i = h_{i-1} = h > 0$, then we have:

$$\mathrm{err}_I(f)_{i,j} = O\left(h^2 + \tau\right).$$

Therefore, the implicit scheme becomes second order in space locally.

5. For the leapfrog implicit finite difference scheme we have the following truncation error estimate:

$$\mathrm{err}_L(f)_{i,j} = O\left(h^2 + \tau^2\right).$$

Therefore, the leapfrog scheme is of first order in space and second order in time.

6. Clearly, if the local spatial grid region is uniform, that is, $h_i = h_{i-1} = h > 0$, then we have:

$$\mathrm{err}_L(f)_{i,j} = O\left(h + \tau^2\right).$$

Therefore, the leapfrog scheme becomes a second order method locally.

In fact, some of our computational experimental results obtained from the leapfrog scheme have shown better accuracies than expected.[19]

Numerical Experiments

To illustrate computations via our new numerical algorithms, let us consider the following simplified Black-Scholes model equation:[20]

$$f_t(x,t) = -\alpha f_{xx}(x,t), \quad \alpha = a/\pi^2,\ a > 0,$$

together with proper boundary and initial conditions over a space-time domain $D = \{(x,\ t) : 0 \leq x \leq 1, 0 \leq t \leq 2\}$. In this case, the true solution is of the form $f\ (x,\ t) = sin(\pi x)e^{at}$, which can be used to examine our computed solution. Suppose that our implicit scheme is adopted on a nonuniform mesh where grids in space are generated randomly (this implies that the market is stochastic).[21] In Figures 4.1 and 4.2, we present our computed financial derivatives f_t and f_{xx}, respectively. Further, in Figure 4.3, we show their corresponding residual function over the space-time domain.

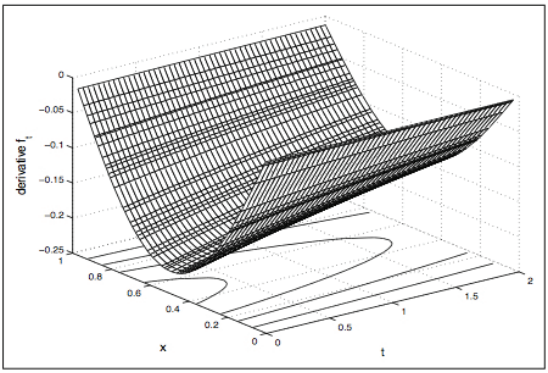

Figure 4.1. The computed financial derivative $f_t(x,t)$ over the space-time domain.

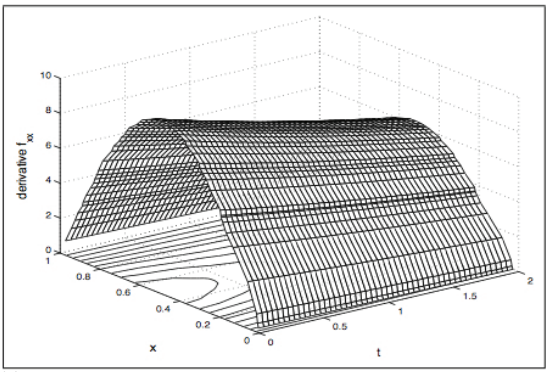

Figure 4.2. The computed financial derivative $f_{xx}(x,t)$ over the space-time domain. The D_{2x} formula [5] is used. For a more rigorous definition of D_{2x} please refer to [7, 9].

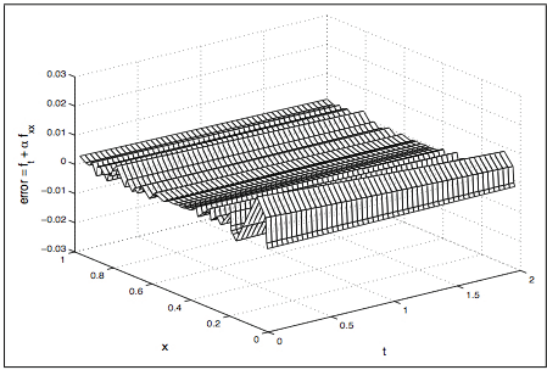

Figure 4.3. The residual function $f_t(x,t) - \alpha f_{xx}(x,t)$ over the space-time domain. It is noticed that the numerical error is really small even on a random nonuniform mesh.

The numerical error shown in Figure 4.3 is satisfactory. Using the spectrum norm, we may see in Figure 4.4 that the patterns of computational errors are consistent with the random mesh in the space. It also decays smoothly as time t increases. (See Figure 4.5).

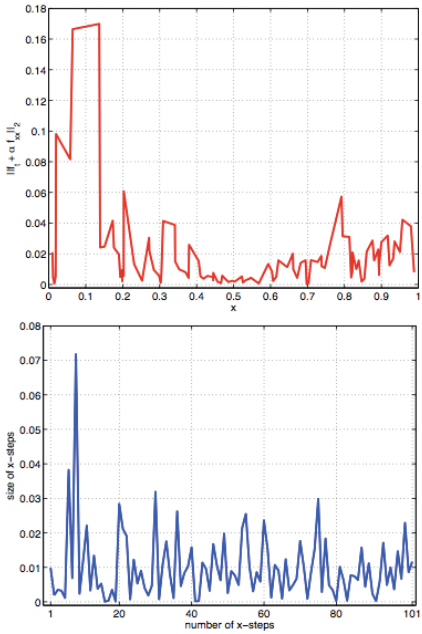

Figure 4.4. TOP: Numerical error in the spectrum norm when the time is fixed; BOTTOM: Sizes of the randomly generated spatial steps.

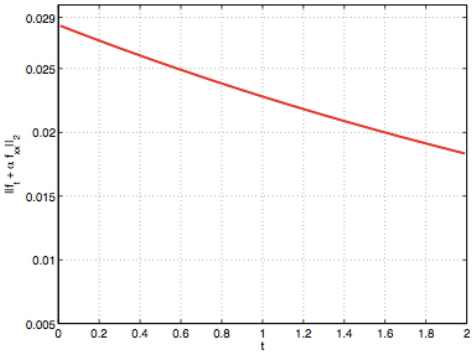

Figure 4.5. Numerical error in the spectrum norm when the space is fixed.

More detailed information, such as the order of the rate of convergence, can also be estimated from the numerical experiments. The highly reliable numerical solution in these tests demonstrates satisfactory new algorithms. It is particularly interesting for us to observe the capability of the mathematical methods for handling turbulent market data via random mesh structures.[23] The algorithms developed are simple, straightforward and stable. They have be tested with real and turbulent option data which represent more irregular patterns of trading values, indexes and interactive investments.[24]

Acknowledgments

Myles Baker's collaborator on this project, Daniel Sheng, is a National Merit scholar enrolling at Baylor fall 2010. The authors are grateful to the Office of the Vice Provost for Research, Baylor University, for the 2008-9 Undergraduate Research and Scholarly Achievement (URSA) Award which enabled this research. Mr. Andrew Sheng, Carnegie Mellon University, generously shared and discussed his research notes and Matlab computer programs with the authors. All pictures and graphics are the property of the authors. Their reproduction here is within the creative liberties of the represented parties, and they have not been used or referenced in any other publication.

NOTES

This article is an extension of our previous research presented in *Involve—A Journal of Mathematics*, published by the University of California, Berkeley, 2009.

[1] See the following for the original paper published by Black and Scholes [3].

[2] [3, 5, 12].

[3] The nonnegative parameters, and can be determined by particular trading environments, as discussed in [3, 5, 9, 12].

[4] For a more detailed discussion of different two-dimensional grids, refer to [2, 9].

[5] [2, 9].

[6] [8, 11].

[7] [4, 10, 11].

[8] Many interesting properties of different finite difference formulas and applications over uniform and nonuniform meshes can be found in [1, 7].

[9] [7].

[10] [1, 7].

[11] [10].

[12] [1].

[13] Details of this consequence can be found in [2, 7, 9].

[14] [6].

[15] [2].

[16] Detailed structures of the schemes can be found in [2].

[17] [1, 9].

[18] These procedures are much more complicated. For a more involved approach, see [2].

[19] Further study has been started for the so-called Crank-Nicolson scheme, a modified leapfrog scheme, [1, 9], and are expected in a forthcoming paper.

[20] [5].

[21] Markets with random probability distributions can be analyzed but not fully understood or predicted with 100% accuracy.

[22] [4, 9].

[23] Situational experimental results will be included in a forthcoming paper.

BIBLIOGRAPHY

[1] K. Atkinson and W. Han, Elementary Numerical Analysis, 3rd Edition, John Wiley & Sons, Somerset, NJ, 2004.

[2] M. D. Baker and D. D. Sheng, On the consistency of finite difference approximations of the BlackScholes equation on nonuniform grids, Involvea Journal of Mathematics, 2 (2009), 477-492.

[3] F. Black and M. Scholes, The pricing of options and corporate liabilities, Journal of Political Economy, 81 (1973), 637-654.

[4] P. Blythe, P. Joseph, P. Urban, D. Martin, R. Haese and M. Haese, Mathematics for the International Student: Mathematics HL (Optional), Haese & Harris Publications, Adelaide Airport, Australia, 2005.

[5] P. Brandimarte, Numerical Methods in Finance - A MatLab Based Introduction, Wiley & Sons. Inc, New York, 2002.

[6] E. W. Cheney and D. R. Kincaid, Numerical Analysis: Mathematics of Scientific Computing, Wadsworth Inc., Belmont, CA, 1991.

[7] B. Jain and A. D. Sheng, An exploration of the approximation of derivative functions via finite differences, Rose-Hulman Undergraduate Math Journal, 8 (2007), 172-188.

[8] J. Marsden and A.Weinstein, Calculus III, Springer, Berlin and New York, 2002.

[9] A. D. Sheng, Optimized finite difference approximations on non-uniform grids with applications, A Midterm Project Report to the URSA Program, Baylor University, 2008 (preprint).

[10] J. Stewart, Multivariable Calculus: Early Transcendentals, Brooks/ Cole-Thomson Learning, Belmont, CA, 2003.

[11] P. Urban, J. Owen, D. Martin, R. Haese, S. Haese and M. Bruce, Mathematics for the International Student: Mathematics HL

(Core), Haese & Harris Publications, Adelaide Airport, Australia, 2004.

[12] P. Wilmott, E. Savage and S. Howison, Mathematics of Financial Derivatives: A Student Introduction, 15th Edition, Cambridge University Press, New York, 2007.

*This study looks at the mantled howler monkey's (*Alouatta palliata*) use of forest layers during different times of the day. We hypothesized that mantled howler monkeys would use the upper layers of the forest during the morning for thermoregulation and that they would descend during all times of the day to the lower layers of the forest to feed where more abundant food sources are located. We used scan sampling and instantaneous focal sampling to collect data on 61 scans. During the morning hours, the mantled howler monkeys rested in the upper layers of the forest over 50% of the time, supporting the hypothesis for thermoregulation. Also, for four out of five time periods, the mantled howler monkeys spent at least 70% of feeding time at lower levels of the forest. Lack of competition between primate species at the study site could be the reason the lower canopy was utilized more often for feeding.*

Canopy Use in a Temporal Aspect by the Mantled Howler Monkey (*Alouatta palliata*) in Costa Rica

Timothy Bransford

Introduction

Studies indicate that different primate species allot different amounts of time to the activities of resting and feeding. Two members of the Platyrrhine infraorder display an example of these differences. Squirrel monkeys (*Saimiri oerstedi*) spend an average of 64% of their day in food-related activities (Boinski 1987), while mantled howler monkeys (*Alouatta palliata*) spend 65.54% of their day resting (Milton 1980). These differences stem from the specialized insectivore diet of the squirrel monkey and the generalized folivorous diet of the mantled howler monkey. Insectivores spend more time in food-related activities because their main food source is found at a much lower density than are leaves. In addition, due to the leafy diet of folivores, more time is dedicated towards rest in order to digest the structural compounds found in leaves (Milton 1980).

In this study, we examined the mantled howler monkey's utilization

of different forest layers during different times of day with respect to the activities of feeding and resting. Records of the daily activity in other Platyrrhine species indicate that feeding takes place intermittently from late morning to the afternoon (Boinski 1987). The mantled howler monkey is the only known folivore in the Platyrrhine infraorder, influencing its feeding ecology. It is the first primate to be studied in its natural environment (Carpenter 1934), and it is one of the most widely studied species of the new world monkeys.

Howler monkeys are the largest of the Platyrrhine infraorder, averaging 7 kg to 9 kg (Milton 1980). They are arboreal quadrupeds, spending much time in the canopy of the forest, particularly the upper-canopy and emergent layers, and resting for most of the day (Mendes Pontes 1997, Cunha, Vieira, & Grelle 2006, Prates & Bicca-Marques 2008). Howler monkeys prefer the upper canopy partly because the upper layers of the forest, where more sunlight penetrates through the forest strata, aid in an organism's thermoregulation (Bicca-Marques & Calegaro-Marques 1998, Campos & Fedigan 2009). Furthermore, when multiple genera and species of new world monkeys are present, they are known to partition their habitat, using a different set of layers of the forest depending on the neighboring species (Mendes Pontes 1997).

Based on initial observations, we hypothesized that mantled howler monkeys would allocate the morning to resting before feeding starts, and different layers of the forest would be utilized for different activities. We predicted that mantled howler monkeys would rest mainly in the upper canopy and emergent layers of the forest during the morning hours to better thermoregulate. Additionally, mantled howler monkeys would feed more in the middle canopy and lower canopy, where the more abundant food sources are found, at all times of the day.

Methods

This study took place at La Suerte Biological Field Station in northeastern Costa Rica (10°26'N, 83°47'W), near the town of Primavera. The field site is a tropical moist forest with an average precipitation amount of 3962 mm per year. While some primary forest is located at the field site, secondary forest dominates the region, and extensive agricultural practices, including the cultivation of bananas and pineapples, occur around the site (Bezanson 2005). Two other primate species are located at La Suerte, the white-faced capuchin (*Cebus capucinus*) and the black-handed spider monkey (*Ateles geoffroyi*).

Starting January 1, 2010 and ending January 6, 2010, we collected 20.5 hours of observation on mantled howler monkeys from three groups labeled the pirate group, the ninja group, and the banditos group. The pirate group consisted of at minimum seven members, with at least two members being male and at least three juveniles. The ninja group consisted of at minimum six members with at least two males and two juveniles. The banditos group consisted of at minimum eight members, including at least two males and two juveniles. We implemented scan sampling and instantaneous focal sampling techniques (Altmann 1974) at two-minute intervals for 30 minute sampling periods. The pirate group was sampled for 12.5 hours, the ninja group was sampled for 5.0 hours, and the banditos group was sampled for 3.5 hours. A total of 61 individuals were observed: 34 individuals from the pirate group, 17 individuals from the ninja group, and 10 individuals from the banditos group. The possibility exists that some individuals were sampled repeatedly.

Time 1	6:00 a.m. – 7:59 a.m.
Time 2	8:00 a.m. – 9:59 a.m.
Time 3	10:00 a.m. – 11:59 a.m.
Time 4	12:00 p.m. – 1:59 p.m.
Time 5	2:00 p.m. – 3:59 p.m.

Table 1: Time Period Definitions

Herb Layer	Layer that includes the ground; vegetation does not exceed 1.5 m in height
Understory	Layer that includes trees that do not have exposure to the sky but are higher than 1.5 m
Canopy	A set of at least 4 trees with overlapping crowns and exposure to the sky
Lower- Canopy	The first branching of limbs in the crown of a canopy tree
Mid-Canopy	Branches that are not included in the first branching, but do not have exposure to the sky in the crown of a canopy tree
Upper Canopy	Branches that form the highest part of the crown of a canopy tree and are exposed to the sky
Emergent Layer	Trees taller than the surrounding canopy that have no more than two neighboring trees of the same height (neighboring trees are any trees in which the crowns touch each other)

Table 2: Forest Layer Definitions

We collected data on time of day, age, sex, activity, and location in forest layers. Time of day was separated into five 2-hour time periods starting at 6:00 a.m. and ending at 3:59 p.m. (Table 1). Time 1 and time

2 were considered morning intervals, time 3 was considered midday, and time 4 and time 5 were considered afternoon intervals. Seven samples were taken during both time 1 and time 5, and nine samples each were taken during time 2, time 3, and time 4. Forest layers were defined by height, location of branches, neighboring trees, and access to sky (Table 2).

We recorded feeding and resting activities. We defined feeding as manipulating potential food, usually with the mouth or hands, or placing the food into the mouth and/or chewing. We defined resting as remaining motionless or moving less than 1 m without accompanying feeding behaviors.

We compiled data by calculating percentages in the following manners: (1) resting and feeding in different time periods, (2) resting in different layers of the forest during different time periods, and (3) feeding in different layers of the forest during different time periods.

Results

We found that mantled howler monkeys rest most of the day. Mantled howler monkeys spent 73.35% of the day resting and 26.65% of the day feeding. In every time period, the groups spent more time resting than they did feeding (Figure 1).

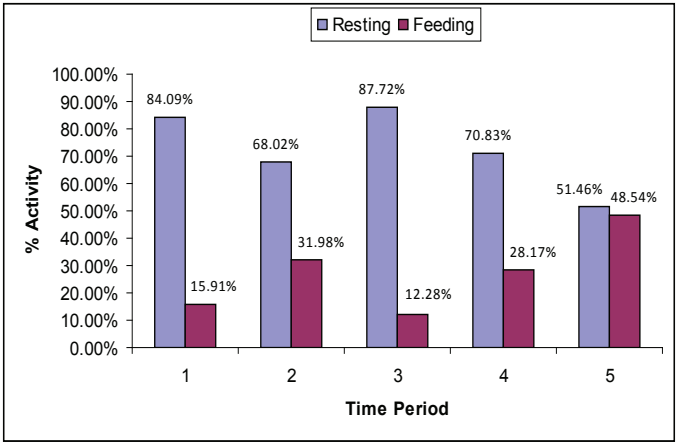

Figure 1: Activity budget during each time period (N=61). Presented here, mantled howler monkeys spend more time resting during the day than feeding.

Furthermore, we found that the mantled howler monkeys spent more time resting in the upper layers of the forest (upper canopy and emergent layer) than in the lower levels during the day. The mantled howler monkeys spent over 50% of their resting time in the upper layers during time 1, time 2, time 3, and time 4. The groups spent the highest percentage of time resting in the upper layers during time 2, resting there 68.21% (Figure 2).

Additionally, the mantled howler monkeys fed in the lower layers of the forest (mid-canopy, lower canopy, and understory) more frequently than in the upper layers throughout the day. On one occasion a female mantled howler monkey was observed foraging in the understory of the forest, which was considered an outlier. The groups spent at least 70% of their feeding time in the lower layers during time 1, time 2, time 4, and time 5. The mantled howler monkeys always fed in the lower layers during time 4 (Figure 3).

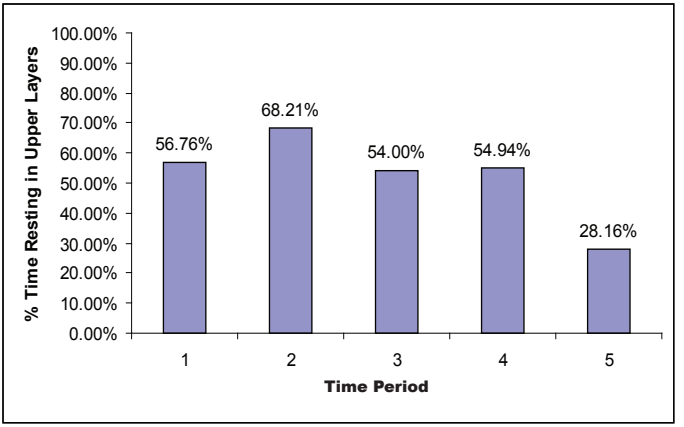

Figure 2: Percentage of resting time in upper layers during each time period (N=61). Mantled howler monkeys rest mostly in the upper canopy and emergent layer, except for time 5.

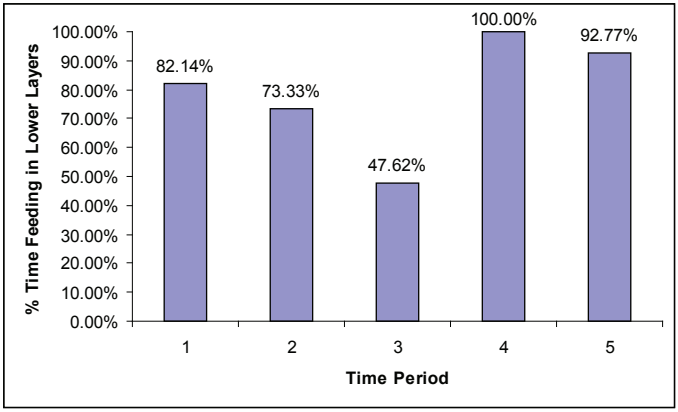

Figure 3: Percentage of feeding time in lower layers during each time period (N=61). Mantled howler monkeys feed mostly in the mid-canopy, lower canopy, and understory, except for time 3.

Discussion

The data proves our prediction that during morning time periods, mantled howler monkeys rest in the upper layers of the forest. In addition, the mantled howler monkeys spent more than half of their resting time in the upper canopy and emergent layers during all time periods except time 5. Milton (1980) finds that mantled howler monkeys spend a majority of their day in the upper canopy of tree crowns, and our data supports this observation. Milton's study on the activity budget of mantled howler monkeys states that a majority of time is spent resting; this is also supported by our data. It can then be inferred that a majority of resting takes place in the upper layers of the forest, as demonstrated in Figure 1.

As stated in the introduction, upper layers of the forest present more sunlight to the group and help mammals regain body heat through thermoregulation (Bicca-Marques & Calegaro-Marques 1998, Campos & Fedigan 2009). Members of the genus *Alouatta* raise body temperature (thermoregulation) when individuals expose themselves to areas with a higher concentration of sunlight (Bicca-Marques & Calegaro-Marques 1998). As previously demonstrated, during the morning mantled howler monkeys rest the most in upper layers of the forest. It can then be inferred that resting in the upper layers of the forest during morning hours is a strategy used by mantled howler monkeys to utilize more sunlight for thermoregulation, supporting the initial hypothesis.

Our observations also support our second hypothesis. Mantled howler monkeys spent an average of 79% of their feeding time in the lower levels of the forest (mid-canopy, lower canopy), and understory. While most time is spent resting in the upper layers of the forest, much feeding time is spent in the lower layers. Boinski (1987) observed that squirrel monkeys would descend to lower levels of the forest to forage for the most abundant, preferred food source. Our data suggests this is a possible reason for the descent to lower layers, and it is an area that may be further studied. Milton (1980) states that mantled howler monkeys prefer young leaves, which are seasonal in their location. Incorporating both Boinski's and Milton's findings might explain why the group at La Suerte foraged in the lower layers throughout the time in which we observed them.

Mendes Pontes (1997) states that mantled howler monkeys prefer to feed in the upper layers of the forest, but he also suggests that regional differences, including the seasonality of leaves, affect the use of available habitat, as does the presence of other primate species. Due to lack of competition, more vertical habitat is available to use at La Suerte, where only three primate species are present, compared to other areas such as the Pontes (1997) location, which contained five species of primates. I believe that because of this lack of competition the mantled howler monkeys descend to lower levels to feed on more abundant food sources, as is also suggested of spider monkeys by Boinski (1987).

Conclusion

In summary, this study found that mantled howler monkeys spend more time resting in the upper canopy and emergent layers during the morning time periods to better thermoregulate. Mantled howler monkeys also mainly feed in the mid-canopy and lower canopy due to the lack of competition from other primate species and the presence of more abundant food sources.

Overall course length limited the amount of data collection in the study. Limitations to the project included time constraints during individual days, including classes starting at 4:30 p.m., approximately an hour before sundown. The allotted time to collect data was six days, which did not allow us to recognize individuals, meaning that individuals were more than likely sampled repeatedly.

Further research on this topic is necessary and the possibilities

are abundant. Possible future research could include a long-term study of the same hypotheses and predictions presented in this paper. While studies on differences in sex and age activity budgets have been done on howler monkeys (Prates & Bicca-Marques 2008), a study on age and sex differences in activity budgets with regard to canopy use would be beneficial. Additionally, the interactions between monkey species present at La Suerte and their habitat partitioning behavior needs to be assessed. Food sources differ geographically, and further research at La Suerte needs to be conducted to identify the mantled howler monkeys' preferred food sources and their seasonality.

Acknowledgments

This project was completed in cooperation with my field partner, Jennifer Hill, a sophomore at Trinity College. Dr. Amy Schreier of Duke University taught the field course. Our colleagues at La Suerte Biological Field Station provided support through resources and facilities.

BIBLIOGRAPHY

Altmann, J. (1974). Observational study of behavior; sampling methods. *Behavior*, 69 (3-4), 227-267.

Bezanson, M. F. (2005) Leap, bridge or ride? Ontogenetic influences on gap crossing in *Cebus* and *Alouatta*. In: Estrada, A., Garber, P. A., Pavelka, M., and Luecke, L. (eds.) *New perspectives in the study of Mesoamerican primates: distribution, ecology, behavior, and conservation.* New York, Springer, 333-348.

Bicca-Marques, J. C. and Calegaro-Marques, C. (1998). Behavioral thermoregulation in a sexually and developmentally dichromatic neotropical primate, the black-and-gold howling monkey (*Alouatta caraya*). *American Journal of Physical Anthropology*, 106, 533-546.

Boinski, S. (1987). Habitat use by squirrel monkeys (*Saimiri oerstedi*) in Costa Rica. *Folia Primatologica*, 49, 151-167.

Campos, F. A. and Fedigan, L. M. (2009). Behavioral adaptations to heat stress and water scarcity in white-faced capuchins (*Cebus capucinus*) in Santa Rosa National Park, Costa Rica. *American Journal of Physical Anthropology*, 138, 101-111.

Carpenter, C. R. (1934). A field study of the behavior and social relations of the howling monkeys (*Alouatta palliata*). *Comp. Psychol. Monog.,* 10(2), 1-168.

Cunha, A. A., Vieira, M. V., and Grelle, C. E. V. (2006). Preliminary observations on habitat, support use and diet in two non-native primates in an urban Atlantic forest fragment: The capuchin monkey (*Cebus* sp.) and the common marmoset (*Callithrix jacchus*) in the Tijuca Forest, Rio de Janeiro. *Urban Ecosystems*, 9, 351-359.

Mendes Pontes, A. R. (1997). Habitat partitioning among primates in Araca Island, Roraima, Northern Brazilian Amazonia. *International Journal of Primatology*, 18(2), 131-157.

Milton, K. (1980). *The Foraging Strategies of Howler Monkeys: A Study in Primate Economics*. New York: Columbia University Press.

Prates, H. M. and Bicca-Marques, J. C. (2008). Age-sex analysis of activity budget, diet, and positional behavior in *Alouatta caraya* in an orchard forest. *International Journal of Primatology*, 29, 703-715.

Isaac Watts, the Father of English Hymnody, composed original hymns with Hebrew poetic style, staying true to the style of Scripture in order to enable congregants to understand a deeper importance of worship through song. This paper shows the connection between Walter Ong's theories about literary and oral expression and community, and Isaac Watts's hymns creating community among congregations through singing worship.

Words Made Flesh: Isaac Watts, Walter Ong, and the *Communitas* of Hymnody

Kevin Georgas

Introduction

When considering hymnody, we must remember that hymns are sung, and sung primarily by congregations. This might seem an inconsequential and even insipid observation, but it must not be overlooked. Singing a hymn within or as a congregation is significantly different from reading a poem in solitude. The former depends upon an oral medium, while the latter makes use of a written one. Isaac Watts (1674-1748), who has been called the "Father of English Hymnody," was well aware of this distinction between spoken and written communication. In fact, Watts's project of paraphrasing the Psalms and writing original hymns can be understood as providing an oral rendering of Reformed theology.

In recent years, scholars such as Walter Ong (1912-2003) have begun to reflect upon the distinction between oral and literary expression, as thinkers across a broad spectrum of disciplines realize that the way in which a culture expresses itself shapes the way that culture interprets the world around it. Ong, a Jesuit priest and professor at St. Louis University, draws from several academic disciplines such as theology, anthropology, psychology, and linguistics to account for the distinctions between orality and literacy. Ong observes that the spoken word is fundamentally an "event occurring between persons." Whereas literary expression requires isolation both of the writer and the reader, primary oral communication[1]—be it oratory, conversation, or song—requires a common language and actual "presence." Furthermore, Ong

argues that orality shapes the mind in such a way as to make sense of the world through synthesis. Whereas writing and print facilitate analysis, pinning words and phrases to a page like specimens upon a dissection tray, orality, with its dependence upon memory, connects ideas together through any number of available poetic devices. Orality thus shapes the mind to make sense of the world through synthesis, and does so within the context of a community.

An implicit connection exists between Watts and Ong on the matters of orality and community. This essay will explore that connection for the purpose of offering an account of Watts's hymnody. First, I will consider the ingenuity of Watts's method of hymnody, particularly his "art of sinking." Next, I will discuss some of the intricacies of Ong's distinction between orality and literacy. Finally, I will examine two of Watts's well-known hymns in order to identify new resonances discovered by the dialectic between his own method and Ong's thought. By applying Ong's theory of orality to Watts's hymns, I will suggest that the congregational singing of those hymns is not a simply superficial togetherness, but a deeply sacramental, indeed, a performative utterance. By the grace of God, those persons who sing as one are made one Body in that singing.

Watts on Hymnody

Watts, an English pastor, sought to write hymns that inspired devotion in his congregants by making his vast theological learning comprehensible for even the least learned of worshipers. He ministered in a Calvinist tradition which taught that only the words of Scripture were fit for singing in worship. The English translations of the Psalter available at that time, however, were often cumbersome and awkward when put to verse, and the average worshipper was not always able to see the connection between the praises and laments of David and his or her own Christian experience. Opaque content presented in boring style made worship in song an uninspiring and even wearying practice. Because they did not see the purpose, many congregations stopped singing altogether.

For Watts, worship in song was "that part of worship which of all others is the nearest akin to heaven;" thus he considered it a great tragedy that it "should be performed the worst upon earth."[2] As a remedy for such uninspired worship, Watts began to paraphrase the Psalter and

became the first English speaker to compose original hymns. Watts began his apology for this practice by drawing a distinction between the purpose of translating the Scriptures for reading and for singing. Watts believed that translations intended for singing must be adjusted both for the sake of their musicality and for the understanding of the congregation.

Watts's concern for both musicality and accessible theology led him to write in a simple and restrained style. In so doing, Watts mastered what his contemporary Alexander Pope termed "the art of sinking." For Pope, however, "sinking" was simply a matter of compositional style. His essay, "The Art of Sinking in Poetry" satirized the baroque, over-wrought imagery that saturated much of eighteenth-century poetry. Given the "heights" to which many poets allowed their metaphors to rise, good poets must learn to "sink" their imagery to more pleasing, and less ridiculous, levels.[3] The "art of sinking" is essentially the art of restraint. For Watts, such aesthetic concerns took on pastoral significance. He "just permitted [his] verse to rise above a flat and indolent style," refusing to "tempt an ignorant worshiper to sing without his understanding."[4] In his employment of the "art of sinking," Watts meant to give his entire congregation the ability to worship together in song. The simplicity of his metaphors allowed even illiterate congregants to take part in worship.

Watts's entire project of writing songs for worship began with a challenge to Calvin that translations intended for reading are unsuited for singing; therefore, it is necessary to paraphrase the Psalter. His first argument, expounded in *A Short Essay Towards the Improvement of Psalmody*, stated that paraphrasing is a practical necessity if the Psalms are to be sung; the text must be paraphrased for the sake of English meter and rhyme. Watts, who knew Greek and Hebrew by the time he was fourteen, recognized the translator's dilemma between literal accuracy and idiomatic equivalence. However, he was also aware that every translator, even the most literal, must paraphrase to an extent. In his words: "Those persons therefore that will allow nothing to be sung but the words of inspiration or scripture ought to learn the Hebrew music and sing in the Jewish language."[5] Watts undertook to translate the poetry of the Psalms, if not every particular word.

Watts justified writing original hymns by appealing to the distance between translations of Scripture and the original Greek and Hebrew. Essentially, the paraphrases, though warranted, are so distinct from the

literal translation of the text that "it is very hard for any man to say . . . that they are in a strict sense the word of God."[6] Having, in that sense, broken Calvin's decree that only the Scriptures should be sung, Watts had no reason to keep from writing original hymns. Watts, however, did not believe that he had license to write songs of worship in whatever style he pleased without restraint. He "sinks" his verse in order to mimic the poetic style of the Scriptures as closely as possible. Thus, his choice of word and metaphor are not nearly as sumptuous as those of later hymn writers such as Charles Wesley. Within this simple style, his use of the "rhetorical devices of repetition, parallelism, and chiasmus" are no coincidence, as they are the characteristic devices of Hebrew poetry.[7]

Having established that the musical needs of the Psalms require a certain degree of paraphrase, Watts went on to make his second argument that theological adjustments are also required to "make David speak as a Christian." In *A Short Essay Towards the Improvement of Psalmody*, he went even further in his distinction between translations of the Psalms intended for reading and for singing. He argued that the Psalmists must be made "to speak the common sense of a Christian":

> By reading we learn what God speaks to us in His word; but when we sing, especially unto God, our chief design is, or should be, to speak our own heart and words to God. By reading we are instructed what have been the dealings of God with men in all ages . . . but songs are generally expressions of our own experiences or His glories.[8]

For Watts, worship in song possessed a characteristically subjective aspect.

Was Watts entrapped by the modern "turn to the subject," meaning worship is primarily a matter of inward, personal and perhaps even emotional experience? Watts was indeed greatly concerned with "the fervency of inward religion" in his congregants in a way that was uniquely modern.[9] For Watts, however, this did not mean that serious reflection on the Scriptures themselves should be abandoned for the sake of "what I feel like the text means for me." Nor did he believe that the Gospel was an objective "ideal," which could be distilled from the decaying stream of history and time and slipped into any subjective experience. His Calvinism checked his modernism. Watts's paraphrases are an exercise in bringing together the spiritual senses of the Scriptures

to create a theological grammar for his congregation. Watts's hymns allow those who sing them to refer to the same reality as the Psalmists in their praises and laments, though all the more clearly for they "speak the common sense of a Christian."

Watts argued that his hymns have "led the Psalmist of Israel into the Church of Christ, with nothing of the Jew about him."[9] Yet Watts was no anti-Semite. He emphasized again and again that the Psalmists are chosen instruments of God to speak His word. His attempt to "make David speak as a Christian" does not denigrate David; rather, it reveals an acquaintance with the spiritual senses of the Scriptures, particularly the typological reading:

> There is no necessity that we should always sing in the obscure and doubtful style of prediction when the things foretold are brought into open light by full accomplishment . . . Where he speaks of the pardon of sin thro' the mercies of God, I have added the blood or merits of a savior: Where he talks of sacrificing goats or bullocks, I rather choose to mention the sacrifice of Christ, the lamb of God . . . *More honor is done to our blessed savior by speaking his name, his graces, his actions, in his own language, according to the brighter discoveries he hath now made, than by going back to the Jewish forms of worship and the language of types and figures.*[10]

By arguing for a typological understanding of the Psalms, Watts maintained an analogical distance between his own historical situation and that of David, with the Gospel mediating the distance between them.

Thus, the Gospel's permeation of history is the ultimate justification for Watts's paraphrases and original hymns. In the words of Bernard Manning, "[Watts] sees the drama in Palestine prepared before the beginning of time and still decisive when time has ceased to be."[11] He brings that sense of "the dreadfulness of eternity" to bear upon the believer in his current state. He refuses to require worshippers to wander back into Babylon to take hold of a typological interpretation of the Psalms. Likewise, he brings the equally distant hope of eschatological expectation into the present. The illiterate need not be educated in complex hermeneutic methods to plumb the depths of Christianity. Watts's rhetoric provides them a grammar with which they can refer to

those depths in song. Through Watts's simple language all are able to sing of the "utter prevenience of God's incarnate and atoning grace in Jesus Christ . . . and the total sovereignty of God over the affairs of the world."[12]

Watts's use of the "art of sinking"—simple style and accessible grammar—allowed even the simplest member of the congregation to join in songs of worship. Hindered by complexity neither of imagery, nor of theology, Watts hoped that the entire congregation would be able to sing together. He was greatly concerned with the unity of the church, even across denominational boundaries, as evidenced in the preface to his *Divine Songs for Children*:

> You will find here nothing that favors of a party: the children of high degree and low degree, of the Church of England or Dissenters, baptized in infancy or not, may all join in these songs. And as I have endeavored to sink the language to the level of a child's understanding, so I have designed to profit all.[13]

This goal underlay all of Watts's hymnody. He wrote spiritual songs in the hope that they would be so universally Christian that any of the dissenting denominations could sing them without quarrel. Thus, the art of sinking and all it entails demonstrate that, for Watts, the singing of hymns unifies the congregation in their Christian experience.

Walter Ong and the Distinction Between Orality and Literacy

At first glance, it might not seem that a connection worth noting exists between Isaac Watts and Walter Ong. Ong never wrote of Watts, and only mentioned the Puritans in passing. However, Watts's distinction between translations of the Psalms meant for reading and those meant for writing suggests a significant congruence with Ong's theory. Watts intuitively recognized the distinction between orality and literacy, which Ong more fully developed with the aid of modern science on one hand, and philosophy and theology on the other. Given only Watts's "art of sinking," the unity promoted in his hymnody might seem simply superficial, a mock unity that consists in nothing more than a group of people participating in the same activity at the same time. Ong's

theory of orality, however, suggests that congregational singing is hardly superficial, but does actually possess the power to create community, solidifying the bodily oneness that occurs in such a gathering.

Much of Ong's work explores the dialectic between events, ideas, and means of communication throughout history. Dialectic is indeed the proper term, as the relationships between these aspects of human history cannot be explained as a simple cause and effect relationship. A culture's thoughts and the way in which it communicates those thoughts are in a constant ebb and flow of influence on one another. That said, Ong finds that there are three major types of communication to be found in human history: oral, literary, and electronic. The better-understood distinction—and more significant for a comparison with Watts—is between oral and literary cultures. For Ong, the structure of an oral mind is fundamentally synthetic, understanding words as events occurring within community, whereas the literary mind is analytically structured, understanding words as objects in space, demanding isolated self-reflection.

For Ong, "Oral cultures appropriate actuality in recurrent, formulaic, agglomerates, communally generated and shared."[14] Thus, according to Ong, mnemonic devices are essential in oral cultures, which do not have "knowledge retrieval devices" other than human memory. Synthetic formulae such as epithets become the tools of cultural memory, holding ideas together for the sake of oral repetition. Ong gives as an example the singers of ancient epics, who did not memorize their tales word for word, but rather "each epic singer [has] his own massive store of [themes] which he can weave together with ease" as well as "an even more massive store of thousands of often repeated formulae."[15] Such a culture does not privilege originality, but rather the artful use of the narrative and metric formulae that exist within the community. Ultimately, the oral mind is fundamentally synthetic, holding ideas and themes together for the sake of memory and repetition.

For Ong, the mind of an oral culture is not only ordered towards synthesis, but also conceives of words as events occurring between persons. In the age of primary orality, no electronic representation of voice existed. In such a context, voice is fundamentally a "happening":

> It must emanate from a source here and now discernibly active, with the result that involvement with sound is involvement with the present, with here-and-now existence and activity. Sound

> [also] signals the present use of power, since sound must be in active production in order to exist at all.[16]

This sort of communication requires "presence," as well as a common language. In other words, oral communication occurs within community.

Community, however, is not simply the context in which orality grows; rather, a mind conditioned by orality perceives the world in a way that actually facilitates community, in that "oral culture encourages a sense of continuity with life, a sense of participation, because it is itself participatory."[17] Ong observes that in oral cultures, such as that of the ancient Israelites, no distinction exists between speech and action, because speech itself is fundamentally an action.[18] In the same way, speech facilitates community and should not be considered apart from it, as oral communication fundamentally occurs as interaction between people. Orality requires people to find their identity and meaning outside themselves. They understand their own lives, to the extent that they consider them at all, in light of their heroic epics and other oral interactions with one another.

The advent of literary culture changes the way in which people experience the world they inhabit. For a literary mind, words come to be conceived not as actions in time but as objects within space. Words are retained upon the page, and the oral formulae that were once required for mnemonic purposes can be dissected and analyzed.[19] Indeed, analysis is made possible by literacy. Furthermore, Ong observes that speech always occurs within time.[20] The written word, however, remains in its full form for as long as the page upon which it is printed exists. With no need for mnemonic devices, synthesis is no longer expedient, but a luxury.

For Ong, literary analysis results in self-analysis. The modern "turn to the subject" is not so modern at all, but can be traced back to the advent of literary culture, which allows people to reflect analytically upon their own way of thinking and communicating.[21] Ong connects this particularly to the writings of Aristotle on rhetoric. As noted above, the Greek bards and politicians practiced a sort of public speech-making, but without the advent of the written word, Ong argues that it is unlikely that anyone would have ever undergone a rigorous analysis of both art and self as occurs in Aristotle's *The Art of Rhetoric*.[22]

Finally, self-analysis results in isolation from community. The

fullness of the turn to the subject is seen in the fundamental isolation of writer and reader, both from one another and from other people. Whereas voice is an assimilating event, available to all who can hear, it is nearly impossible for two people to write or read the same thing at the same time. The writer is isolated with his "imagined audience" and the reader is isolated with the "mask of the author."[23] This is the case even in the basic ways in which the senses of hearing and sight obtain information. A text, even if representative of a community, requires isolation by the very behavior taken to read it. Thus, the thought structure of the literary mind requires isolation and analysis, as opposed to that of the oral mind, which is fundamentally synthetic and communal.

The Orality of Watts's Hymns

Based upon Ong's understanding of the spoken word as an event occurring between persons and of the oral mind as conditioned to perceive the world synthetically, we can say that to the extent that Watts's hymnody participates in orality, it creates community. In this section, we shall interpret two of Watts's hymns, paying particular attention to their oral features. Watts's hymn "When I Survey the Wondrous Cross" demonstrates the interpersonal movement of his hymnody through its role as a Eucharistic hymn. "Come We that Love the Lord" is ripe with oral features, especially parallelism, that hearken back to the oral culture of the Psalmists themselves.

"When I Survey the Wondrous Cross" provides perhaps the most obvious example of the way in which Watts's hymnody creates community. It is curious that a writer so concerned with the Christian community as a whole should begin his greatest hymn with the first person, "I." Yet, as Ralph Wood points out, it is a particularly unselfish "I," akin to Watts's goal of writing hymns that speak to the personal experiences of every Christian. This "I" and those hymns are guilty of neither a modern "turn to the subject" nor modernism's goal of mastery over self and nature. Watts instantly turns our attention *from* the subject to the object, the "Wondrous Cross" which has already conquered the worst possible inner turmoil ("My God, My God. Why have you forsaken me?") and stands fixed as the focal point of the cosmos.

The hymn concludes once again in the first person, but after having surveyed this cross that person, the "I," utterly empties himself.

Indeed, Watts's original version of the hymn was scandalously Catholic, depicting the "wondrous cross" in actuality as a wondrous crucifix:

His dying crimson, like a robe,
Spreads o'er his body on the tree:
Then I am dead to all the globe,
And all the globe is dead to me.[24]

This stanza, which is now excluded from most hymnals, demonstrates the true nature of Watts's desire for the "fervency of inward religion" in his congregation. He does not seek to make the Cross a subjective emotional prompter for his congregants, but rather for them to understand themselves and their calling as Christians in light of the incomparable, sacrificial suffering of the crucified Savior.

Furthermore, Watts specifically composed the "Wondrous Cross" as a Eucharistic hymn. The identification with the suffering of Christ in the emptying of self was not primarily a matter of personal reflection. Rather, upon singing the words "demands my soul, my life, my all," the congregation would take communion, the "Common Cup," identifying them, as an entire body, with the "Wondrous Cross," just as the singing of it has declared they must. The use of "Wondrous Cross" as a Eucharistic hymn thus shows how it is possible for Watts's hymns to be understood as performative utterances. The congregation might begin the hymn as a collection of individuals, but by the conclusion, they are truly members of one body identified by the blood of the Prince of Glory, and therefore must be crucified to His cross, just as they had sung.

Another well-known hymn of Watts, "Come We That Love the Lord," also shows the connection between orality and Christian community. This hymn in particular demonstrates "the art of sinking," both in its use of Hebrew poetic devices and the way in which it makes deep theological truth grammatically accessible to "even the meanest Christian." In most hymnals today, "Come We That Love the Lord" is presented in four stanzas, but in Watts's original publication it consisted of ten.[25]

Stanza one is the same in every version, an imperative, calling the congregation, "we," to "come" and "join." The A-B-A-B rhyme scheme accentuates the parallelism—a characteristic Hebrew poetic device—between the first two lines of the stanza and the second two. The "sweet

accord" of those singing is the result of their "love of the Lord," and in that accord there is joyful access to the throne of the King.

Stanza two does not occur in any contemporary hymnal, and it demonstrates that though Watts was a Puritan, he was hardly puritanical:

> *The sorrows of the mind,*
> *Be banished from this place*
> *Religion never was design'd*
> *To make our pleasures less.*

Here, Watts presents the converse to stanza one. Having "made our joys known," it is now time to banish the sorrows from our mind that hinder the very singing which brings us to the throne. Watts is no joyless stoic nor a grim Gnostic who hates pleasure. On the contrary, he dedicates a large section of his *Essay on the Passions* to their proper use in worship. So long as they are properly governed by reason, the passions are an essential part of the Christian life to inspire devotion and move the believer to action.

No room is given, however, for sentimentality in Watts's high sense of enjoyment. By even mentioning sorrow in stanza two, Watts reminds us that in order to banish sorrow, it must be acknowledged. This stands in stark contrast to the peppy chorus many evangelical hymnals add to "Come We that Love the Lord," in which congregations cheerfully declare, "We're marching to Zion! We're marching to Zion!" apparently having forgotten that they are marching *from* Babylon. Stanza two of the original version safeguards against such a possibility, ensuring that sorrows are truly banished, not merely ignored.

Stanza three is placed as the second stanza in most hymnals, but in the original publication, the third stanza comments upon the original second stanza, essentially warning that those who cannot "banish their sorrow" may, in fact, never have known God at all. Regardless of this warning, the overall sense of the stanza remains the same. Those that love God "speak their joys abroad" through song.

Stanzas four through eight are the other stanzas omitted from hymnals. This omission might have occurred quite soon after the publication of the original; Watts generally did not like for his hymns to be lengthier than four or five stanzas, as this made them all the more difficult to memorize. One element that is lost in the omission, however,

is the greater parallel structure of the hymn as a whole. Stanza one describes those who love the Lord as "surrounding his throne," while stanza six describes them "seeing his face." In both verses, the believer is present with God, but verse six shows a progression in knowledge of Him. In the same way, stanza five describes God reaching down to save those who love Him "to carry us above." Stanza ten, however, tells of God's people "marching" themselves "through Emmanuel's ground/ To fairer worlds on high." Again, the hymn repeats the idea of experiencing God's presence, but at the same time, there seems to be greater access to that presence in the latter repetitions. It seems that in singing, sanctification actually occurs, allowing greater access to God and even further enjoyment of Him and, not insignificantly, His creation.

Stanzas six through ten especially demonstrate this process of sanctification. "Seeing His face" in stanza six causes that "we shall never, never sin." Furthermore, ceasing to sin results in enjoyment: the forgiven sinner may "drink endless pleasures in." Stanzas seven through nine then deal particularly with this life of enjoyment *in the present*. Thus stanza seven:

Yes, and before we rise
To that eternal state
The thoughts of such amazing bliss
Should constant joys create.

Stanzas seven through nine demonstrate brilliant instances of the "art of sinking" by the use of plain metaphors, in which are found subtle truths of sanctification and the "already/not yet" tension between the inauguration of the Kingdom of Heaven and the eschatological hope of its fulfillment.

The off rhyme of stanza seven accentuates the tension between present reality and future hope. Although English is a difficult language for rhyming, Watts could have easily found a word to rhyme with either "rise" or "bliss." It seems that this off rhyme could have been intentional, perhaps for the sake of creating a verbal dissonance. As David P. Goldman observes, "[T]he resolution of dissonance into consonance in the context of rhythm [gives] music a powerful means to create deep expectations." [26] This is exactly the case in stanza seven. The thought of enjoyment in this life, a life of suffering and sorrows that must be overcome, is surely daunting, and may not seem a "blissful" thought.

Consonance, and therefore resolution, is found in the connection between the "joys created" and the "eternal state."

These "thoughts of bliss" are, for Watts, rooted in the hope of eschatological fulfillment, as indicated in stanza eight:

> *The men of grace have found*
> *Glory begun below*
> *Celestial fruits on earthly ground*
> *From faith and hope may grow.*

Faith in God's sovereignty generates hope that all good things will be fulfilled, which ultimately produces the "celestial fruit" of charity. "Glory," though not yet fulfilled, is a present reality for the "men of grace." The simple uses of the word "before" in stanza seven and "below" in stanza eight provide examples of "the art of sinking." The calculated use of two prepositions communicates a monumental truth of Christian theology; Christian hope is not for salvation *from* this world, but for the salvation *of* this world. Furthermore, the fulfillment that will see that hope realized has already "begun below." Stanza nine continues this theme in its declaration that Zion's hill will "yield a thousand sacred sweets / *Before* we reach the heavenly fields / Or walk the golden streets." The abbreviated version included in most modern hymnals still preserves the rich, implicit narrative of sanctification offered by the ten-stanza structure because of the significance of that simple word "before."

Having moved to the declarative mood in stanzas four through nine, Watts returns to the imperative in stanza ten. The overarching parallelism has come full circle, and the hymn once again implores the congregation to sing. However, those who have gone through the whole sanctifying process of stanzas one through nine are different for it. There is no risk that our sorrows of stanza two will banish us, for Christ has commanded that "every tear be dry." There is no longer any need for Him to "send down His heavenly powers," for the sanctified are already there, and are marching "by the grace they have found . . . to fairer worlds on high."

Conclusion

We may now return to our original question: how is it that hymnody possesses the power to create community, especially if by "community" we mean something much more than a collection of individuals standing in a room together? The oral quality of Watts' hymnody gives us a proper orientation towards this mystery. As Ong has demonstrated, orality facilitates community by shaping the way in which a person perceives the world. Orality trains the mind to make connections, to synthesize, to unify. Furthermore, physical presence and a common language are required to exercise this synthesizing capacity.

Though Watts indeed wrote his hymns, he wrote them with a view to their being sung, with the specific goal of mimicking the orality of the original Hebrew. As seen in "Come We that Love the Lord," Watts uses Hebrew poetic devices towards the end of properly synthesizing theological ideas such as typology, eschatology, redemption, and sanctification into a coherent narrative meant to inform the behavior of the congregation. The poetic devices of that narrative also serve as mnemonic devices, creating space in the mind of the believer to hold onto what has been sung. Furthermore, Watts accomplishes all of this in his "art of sinking," which allows that narrative to be told in a language common to the entire congregation. Not only does the hymn permeate the consciousness of those who sing it, but because the entire congregation can understand what they have sung, it also permeates the consciousness of the entire congregation. Watts's hymns create community, not by ignoring or reversing the "turn to the subject," but by allowing it to come full circle. Those who sing together are turned from themselves back towards Christ and thus find themselves unified in His Body.

NOTES

[1] Ong, *Rhetoric, Romance and Technology*. Ong draws a distinction between "primary orality" and "secondary orality," with the former referring to preliterate oral culture and the latter "electronic orality" made possible by inventions such as radio and telephone. The greatest distinction between the two is that in secondary orality, "presence" is not a necessity, as the speaker may record his voice electronically, and the hearer may

listen to it at any time.
[2] Watts, *Hymns and Spiritual Songs*, iii.
[3] Pope, "The Art of Sinking in Poetry."
[4] Watts, *The Psalms of David,* xx.
[5] Watts, "An Essay Towards the Improvement of Psalmody," 277.
[6] Ibid.
[7] Wood, 4; C. L. Seow, 187.
[8] Watts, "An Essay Towards the Improvement of Psalmody," 277.
[9] Watts, *The Psalms of David*, xxi.
[10] Ibid., xvi-xvii.
[11] Manning, "The Hymns of Isaac Watts"
[12] Wood, 4.
[13] Watts, *Divine Songs,* iv.
[14] Ong, *Interfaces of the Word*, 19.
[15] Ong, *The Presence of the Word*, 25.
[16] Ibid., 111-112.
[17] Ong, *Rhetoric, Romance and Technology*, 121.
[18] Ong, *The Presence of the Word,* 113.
[19] Ibid., 92-110. Ong is fascinated by the rough correspondence between the stages of media and Freudian psychosexual development with the obvious correspondence of the oral stage, and then the retention of words upon a page corresponding to the anal stage. The roughest correspondence is between the electronic age and genital stage, the relation between the two seeming somewhat contrived.
[20] Ibid., 41.
[21] Ong, *Rhetoric,* 1-22. In this argument, Ong traces the "turn to the subject" back to the early stages of the Western rhetorical tradition.
[22] Ibid., 1-22.
[23] Ong, *Interfaces of the Word*, 54; Ong, *Rhetoric*, 55.
[24] Watts, *Hymns,* 280.
[25] Watts, *Hymns*, 159-160.
[26] Goldman, 34.

BIBLIOGRAPHY

Goldman, David P. "Sacred Music, Sacred Time." *First Things* 197 (2009): 31-36.

Manning, Bernard. "A paper read to the University Congregational Society in Cambridge on Sunday, October 17, 1937." In *The Hymns of Isaac Watts: Five Papers.* London: The Epworth Press, 1942.

Ong, Walter. *The Presence of the Word.* New Haven: Yale University Press, 1967.

_____. *Rhetoric, Romance and Technology*. Ithaca: Cornell University Press, 1971.

_____. *Interfaces of the Word.* London: Cornell University Press, 1977.

Pope, Alexander. "On the Art of Sinking in Poetry." In *The Complete Works of Alexander Pope, published in nine volumes.* London: 1796. Gale. Baylor University.

Seow, C. L. *A Grammar for Biblical Hebrew, Revised Ed.* Nashville: Abdingdon Press, 1995.

Watts, Isaac. *Hymns and Spiritual Songs in Three Books.* London: 1709. Eighteenth Century Collections Online. Gale. Baylor University.

_____. *Divine Songs Attempted In Easy Language for the Use of Children*. London: 1716. Eighteenth Century Collections Online. Gale. Baylor University.

_____. *The Psalms of David Imitated in the Language of the New Testament*. 10th Ed. with Preface and Notes. London: 1736. Eighteenth Century Collections Online. Gale. Baylor University.

_____. "A Short Essay Towards the Improvement of Psalmody." In "*The works of the late reverend and learned Isaac Watts, D.D. published by himself, and now collected into six volumes. . . .*" Vol. 4. London: 1753. Eighteenth Century Collections Online. Gale. Baylor University.

Wood, Ralph. "An Introduction to the Life and Work of Isaac Watts." Unpublished essay, Baylor University.

Throughout American history, federal campaign finance regulations have undergone numerous reforms both in Congress and in the Supreme Court. Each modification came with loopholes and structural flaws which in turn motivated new revisions. This paper summarizes the key developments in campaign finance reform, analyzing the causes and effects of major legislation and litigation and concluding with a discussion of flaws that remain in the regulations today.

Making Sense of Federal Campaign Finance Reform: An Overview of Legislation, Litigation, and Structural Flaws

Matthew Hrna

Historically, Americans have perceived their government as being run by big money, special interests, and corruption, but few actually know of the many reforms that have been put into place and the very stringent regulations governing campaign practices. From early American life to the present day, Congress has heard and addressed the public's calls for reform. Meanwhile, many complications arose in the courts as a result of loopholes from earlier laws. The complex issue of campaign finance reform can be understood by looking at the many different challenges the United States government has faced as it progressed along the continual road of reform.

Legislation

Legislative reforms, beginning in 1867 and continuing to the present, are critical to the present state of campaign finance laws. Early reform laws, such as the Tillman Act (1907), the Federal Corrupt Practices Act (1910), and the Taft-Hartley Act (1947), must be understood as the foundation for current campaign finance laws. After the foundation was laid by laws dealing with specific topics, complete campaign finance legislation followed with laws such as the Federal Electoral Campaign Act (1971) and its several amendments. The culmination of campaign finance reform resulted in the Bipartisan Campaign Reform Act (2002).

Early Reform

In the early America of the late 1700s and early 1800s, campaign finance laws were irrelevant because most federal offices were appointed, and those that were elected had a very small voter base since only property-owning, white males could vote. For the few elected offices, the most common campaign tactic was to give food or alcohol to the voters, as George Washington did when he was running for the Virginia House of Burgesses and gave every voter a quart of rum (Smith 18). As voting eligibility expanded, candidates spent more money on campaigns. To help solidify his financial support, President Andrew Jackson used the spoils system, giving jobs in the administration to party loyalists or financial contributors. As a result of this practice, Congress enacted the 1867 Pendleton Act which required applicants for federal jobs to pass competitive examinations so that jobs would be awarded on the basis of merit, not on the basis of loyalty to either a party or a candidate (Billitteri). A former Federal Election Commissioner, Bradley Smith, points out that the Pendleton Act was crafted "to protect government employees from the power of government officials," not "legislators or the government from the corrupting influence of contributions," a quality which separates this act from the many campaign finance laws to follow (Smith 20).

Since the parties were now banned from using the financing provided by the spoils system, they turned to corporate contributions. In fact, by 1888, 40% of the Republican National Committee's financing came from corporations (Smith 23). Senator Benjamin Tillman successfully helped pass the 1907 Tillman Act, barring direct corporate contributions, saying that Americans had come to believe that Congressmen had become the "instrumentalities and agents of corporations" ("Evolution"; qtd in Smith 24). A loophole became evident when companies began reimbursing their CEOs to give "personal" contributions to campaigns. The campaign finance system shifted from being funded primarily by corporations to being funded primarily by wealthy CEOs and large labor unions (Billitteri).

With continued cries for reform during the progressive movement, Congress passed the first disclosure bill, the 1910 Publicity Act, which required post-election disclosure of contributions to campaigns for the House of Representatives (Billitteri, "Evolution"). It required disclosure in election years of contributions of $100 or more and of expenditures of $10 or more (Smith 24). In 1911, Congress passed amendments to place spending caps on all campaign expenditures,

limiting House candidates to $5,000 and Senate candidates $10,000 (Billitteri, "Evolution"). In *Newberry v. United States,* discussed below, the Supreme Court dealt a shocking blow to the bill by ruling that the federal regulation of primary campaigns was unconstitutional, which left the Publicity Act only regulating the general and non-primary special elections (Billitteri, "Evolution").

In the early days of 1924, the public began to hear about the Teapot Dome Scandal. President Harding's Secretary of the Interior, Albert Fall, had persuaded the Secretary of the Navy to give him control of a Navy oil lease. Fall then secretly lent the lease to oil corporations in exchange for kickbacks totaling $404,000 (Bates). Oilman Harry Sinclair had given legal contributions in the non-election off-year to avoid disclosure under the Publicity Act (Smith 26). After lengthy investigation, the Supreme Court ruled that the oil companies corruptly obtained the leases. Fall was fined and imprisoned, and the lease was given back to the Navy (Bates). In response, Congress passed the 1925 Federal Corrupt Policies Act ("Evolution"). It closed this loophole by requiring reporting in off-years and by enforcing disclosure of contributions of $100 or more, regardless of when the money was received. In addition to the reporting, the FCPA mandated that "unless prohibited by his state," the candidate might spend $10,000 or the amount attained by multiplying each voter of the previous election by three cents, not to exceed $25,000. Furthermore, the FCPA forbade candidates from promising a position to a person for his or her vote, and made it unlawful to pay people to either vote or to withhold their vote ("Action" 103). However, because the law solely referred to the "candidate" and not the candidate's committee which usually managed the account, the FCPA was largely ineffective (Smith 27; Billitteri).

During Franklin Roosevelt's presidency, many allegations surfaced that he was requiring the public works employees of his New Deal to give to his campaign fund. To counter this, Congress expanded the Pendleton Act to create the 1939 Hatch Act, which prohibited contributions from federal employees or federal contractors to federal officials (Smith 27). The Hatch Act's main purpose was to make it "unlawful for any person to intimidate, threaten, coerce, or to attempt to threaten, or coerce" a person from exercising the right to vote. Furthermore, it prohibited federal employees in administrative positions from influencing elections by contributing to or soliciting funds for a candidate ("Action" 102). In addition, employees of the executive branch were banned from actively participating in political campaign management, being a member of

a party, or contributing to or soliciting for a candidate. In 1940, the Hatch Act was amended to expand the ban on political contributions to employees of state agencies that accepted federal funding ("Action" 104). If any of the employees of such an agency violated this law, the federal government would withhold federal funding from the agency until the employee was fired and was not allowed to work at any other state agency with federal funding ("Action" 106).

Under the Republican-controlled Congress of 1943, the War Labor Disputes Act (Smith-Connally Act) was passed, which banned labor unions (which tended to support Democratic candidates) from contributing to political campaigns for the duration of the war ("Evolution"). By 1947, the Republicans had made impressive gains in Congress, and they were able to make the ban on labor union funding permanent in the Labor Management Relations Act (Taft-Hartley Act). Quick to find a loophole, the unions established the first political action committees, or PACs. Employees and members would give to the PAC when they paid their dues because an automatic check was put in the "optional" box for an employee to commit to contributing (Smith 28).

In 1966, public financing of the Presidential election was passed in the Campaign Fund Act with the goal of decreasing money's influence on campaigns and increasing the focus on issues (Tax Check-off Law). The act gave a "tax credit of one-half of the taxpayer's political contribution up to $12.50 per year" (qtd. in "Main Features" 37). In addition, it added a check box to income tax returns where taxpayers could choose to give one dollar to the Presidential Election Campaign Fund. Since all candidates and parties did not have equal standing, a system was established that designated three categories of public funding: major parties, minor parties, and new party candidates. While the major party candidates would receive fifteen cents per eligible voter, third party candidates would receive money according to a complex distribution formula. Since expenditure caps were placed on the major party candidates, privately-raised money combined with the federal financing could not exceed that limit. The minor and new parties could raise up to the major parties' expenditure cap in addition to receiving public financing ("Main Features" 37).

Comprehensive Campaign Finance Legislation

Seeing campaign expenditures soar from $155 million in 1956 to $300 million in 1968, the public was again crying for reform to stop what they again perceived as big money having undue influence on their

representatives (Billitteri). In response, Congress passed a sweeping campaign finance bill, the 1971 Federal Election Campaign Act, which largely replaced the Federal Corrupt Practices Act (Smith 31). Because a large portion of campaign spending was on media, Title I of the bill required media outlets to give discounted pricing to candidates and their committees during the forty five days before a primary and sixty days before a general election. In addition, Title I capped media spending for Congressional candidates at $50,000 or ten cents per registered voter, and stipulated that only 60% of campaign expenditures could go to broadcast media. Presidential candidates were restricted to the spending limits in each state equal to those of the state's U. S. Senators. Title II acted as a series of amendments by limiting the candidate's personal spending, abolishing maximum contribution and expenditure limits, and strengthening the ban on corporate and labor union contributions ("Main Features" 37-8). Furthermore, Title III required disclosure of all candidate campaign committees or PAC spending over $1,000 ("Evolution"). Disclosure requirements mandated that each committee or PAC have a treasurer to document all contributions of $10 or more and expenditure of $100 or more. The detailed report to the Comptroller General required the bank account balance, the name and address of contributors or payees of $100 or more, and the total of un-itemized contributions or expenditures less than $100. Finally, Article IV largely repealed the Federal Corrupt Policies Act, establishing FECA as the dominant campaign finance law ("Main Features" 38).

Since the 1971 FECA was ambiguous about disclosure between the last required filing of the Federal Corruption Practices Act and the first filing of FECA, many campaigns assumed none was needed. During the Watergate investigations in 1973, President Richard Nixon's campaign took this stance, but a court order followed which exposed Nixon Campaign payments to the vandals who participated in the Watergate burglary (Smith 31). In fact, one columnist argued that the public wanted action so badly that "anything that is called a political campaign reform bill is automatically deemed deserving of applause" (qtd. in Gillon 206). Because of this abuse, Congress passed the FECA amendments of 1974 establishing an independent agency, the Federal Election Commission, to manage the disclosure filings and to enforce regulations ("Federal"). The FEC was to consist of two members appointed by the President and four appointed by Congress. With much union lobbying, Congress also added a provision recognizing PACs as

legal entities in campaign finance law. When lobbying to protect their PACs, the labor unions never expected corporate PACs to be established, or that by 1974, corporate PACs would comprise two-thirds of the total number of PACs. One union lobbyist said later that "the way things have turned out since, the labor movement would have been better off politically with no PACs at all on either side" (qtd. in Gillon 213). In addition, individual contribution limits were set to $1,000 per Federal campaign and PACs to $5,000. Neither PACs nor individuals could give more than a total of $25,000 in an election year (Gillon 208). Also, spending limits for the House were set to $75,000 and limits for the Senate were set at $250,000 to be increased by the number of voters in the Senator's state (Smith 33).

In 1976, after the Supreme Court ruled in *Buckley v. Valeo* that expenditure caps on a candidate's committee or on a third party committee were unconstitutional, Congress went back to work amending FECA to comply with the court's decision (Billitteri). With the revised legislation, Congress abolished the spending caps and changed individual contribution limits for PACs from $5,000 to $15,000 (Gillon 211). In 1978, the FEC issued an advisory opinion allowing state parties to abide by their own state campaign finance laws on Get Out the Vote Drives and voter registration (Billitteri). Also, in 1979, Congress amended FECA not only to reflect this advisory opinion, but also to extend it to the national parties, to simplify disclosure filings, and to increase the public funding option to the national nomination conventions ("Evolution").

Although the Federal Election Campaign Act was unprecedented in the extent of its regulations, it also fell victim to loopholes, record amounts of money spent on campaigns, and eroding public favor. In response to the 1979 amendments, federal candidates began fundraising to enlarge state parties' coffers with unregulated contributions, "soft" money, which could be spent on Get Out the Vote and voter registration drives in contested federal races (Gillon 223). In 1995, the Federal Election Commission issued an advisory opinion allowing political parties to use soft money on issue advertising (Billitteri). As a result, even more candidates began soliciting for soft money on behalf of their party. For example, in 1996, President Bill Clinton accepted spending limits on public financing for the Presidential election, but raised soft money for the Democrat National Committee and Democrat state parties to spend money on his behalf for issue advertising. *The Washington Post* declared that "the DNC became an extension of the Clinton-Gore campaign,"

allowing Clinton to receive advertising of $44 million over the public financing caps (Gillon 225-6). Besides the problems with Presidential public financing, total Congressional spending had skyrocketed from $128.1 million in the 1989-1990 cycle to $318.4 million in the 1999-2000 cycle.

Bipartisan Campaign Reform Act

With the public once again seeing Washington, D.C. as being run by big money interests and corporate soft money contributions, a movement began for extensive campaign finance reform. One individual named "Granny D" Haddock, a ninety-year-old woman, walked, skied, and climbed 3,200 miles from Los Angeles to Washington, D.C (*Run Granny Run*). When she arrived, she walked up the steps of the Capitol and said, "The people I met along my way have given me a message to deliver here: "Shame on you, Senators and Congressmen, who have turned this headquarters of a great and self-governing people into a bawdy house" (qtd. in Cooper 259). Additionally, forces were growing in both the House and the Senate for reform. In 1999, a campaign finance bill passed the House and went to the Senate with Senator John McCain as its chief advocate, but it failed because of a filibuster led by Senator Mitch McConnell (Billitteri 26). Another factor contributing to public awareness was Senator McCain's failed 2000 bid for the Republican Presidential nomination, in which his campaign message was centered on campaign finance reform (Cooper 259).

Because of the calls for reform, Senators Feingold and McCain went back to work on a campaign finance resolution that was viable to pass. As the Bipartisan Campaign Reform Act (McCain-Feingold) took the stage in 2001, Senator McConnell stood on the Senate floor and asserted, "If McCain-Feingold becomes law, there won't be one penny less spent on politics, not a penny less. In fact, a good deal more [will be] spent on politics" (Billitteri). Despite Senator McConnell's protest, BCRA passed in 2002. The two main purposes of the act were to stop the flood of soft money into national party committees and to eradicate the partisan attack ads masked as "issue ads" and funded by unions and corporations (Billitteri).

Recognizing the need to revise hard money contribution limits, the BCRA raised the individual contribution limit per federal candidate to $2,000, indexed to inflation, raised the individual contribution limit for state parties to $10,000 per year and for national parties to $25,000, and raised the total federal two-year individual contribution limit to

$95,000. Foreseeing the possibility that parents might try to funnel extra money through their children, the BCRA also prohibited children under seventeen from donating to candidates or parties. Additionally, national parties' limits on contributions to a campaign were raised to $35,000, also indexed to inflation. The "Millionaire's Amendment" was added that changed the contribution limits based on how much the other candidate uses self-financing. In Senate races, when one candidate uses his personal wealth for more than $150,000 + $.04 per eligible voter, the contribution limits of the candidate's opponent are raised based on the amount of the candidate's personal spending minus that of the opponent. The limits can be raised as much as six times the norm and allow for candidate/party coordinated spending. In House races, the threshold is $350,000, and, if the limit is reached, the candidate's opponent's contribution limits are tripled, including allowances for candidate/party coordinated expenditures (Cantor 2-3).

To address the masked "issue ads," BCRA mandated specific disclosure rules for independent expenditures expressly advocating the election or defeat of a federal candidate. For expenditures of at least $1,000 up to $10,000, the FEC required notice within 24 hours, and for expenditures of $10,000 or more, the FEC required notice in 48 hours. To further curb these issue ads, Congress made it illegal for national parties both to participate in coordinated expenditures with a campaign and to make independent expenditures on the campaign's behalf (Cantor 4). In addition, Congress declared that all coordinated expenditures count as contributions, meaning that coordinated campaigning could not exceed $5,000 per candidate (Cooper 7, Cantor 5). One exception to the $5,000 limit was that a party could use the individual expenditure route and use a complex expenditure limit formula based on population with limits up to $67,650 for House races and $1.6 million for Senate races (*McConnell v. Federal Election Commission*). Later, in 2001, *Federal Election Commission v. Colorado Republican Campaign Committee,* all limits on party expenditures were ruled unconstitutional. BCRA banned advertisements that mentioned a specific federal candidate or were targeted to a specific population within 60 days of a general election and 30 days of a primary (Campaign Finance Institute 248). It did allow for non-profit groups such as 527s or 501(c)4s to be exempt from this ban as long as their ads were not targeted and were paid for by contributions received from individuals, not soft money (Cantor 11). In addition, the legal ads that were produced in the correct time periods were required to include the name of the sponsor for at least four seconds (Cantor 16).

Besides regulating the contributions and issue advertising, the Bipartisan Campaign Reform Act also regulates the use of soft money. To address the soft money loophole that plagued the Federal Election Campaign Act, the BCRA banned national parties from using or soliciting soft money on behalf of another entity. In contrast, the Levin Amendment allowed state and local parties to use soft money on Get Out the Vote activities or voter registrations, providing that the money was from contributions limited to $10,000 (Jost, "Campaign;" Campaign Finance Institute 248). The BCRA also required state parties to comply with federal contribution limits for federal election activities such as voter identification and advertisements mentioning a federal candidate (Campaign Finance Institute 247). In addition, the act restricted federal candidates and elected officials from soliciting soft money for the state and local parties and from soliciting for money in excess of the federal contribution limits (Cantor 8). Although federal candidates or officials cannot solicit soft money on behalf of state and local parties, they can attend state fundraisers as a guest or a speaker as long as they do not solicit funds (Campaign Finance Institute 249).

The most recent change in BCRA occurred on January 21, 2010, in the Supreme Court's 5-4 ruling in *Citizens United v. Federal Elections Commission* that corporations and labor unions may spend money directly from their treasury accounts for the purpose of funding "electioneering communications" (*Citizens United*). Prior to this decision, corporations and labor unions were not allowed to spend money directly campaigning, unless they funneled money through a PAC. While some, including President Barack Obama, say that this decision will cause a "flood" of corporate and labor money into elections, that outcome is not yet certain (Ross). Since both parties were already able to spend money for campaigning through their PACs, the number of PACs might just decline as corporations and labor unions shift political operations to the companies and unions themselves. On the other hand, the amount spent on campaigns by these parties might increase, since it will be easier for corporations and labor unions to spend directly rather than having to manage a PAC.

Litigation

Just as understanding campaign finance legislation is important for one to grasp the concept of campaign finance reform, so is having knowledge of the litigation that has continually shaped the realm of

campaign finance. *Newberry v. United States* (1921) was critical to the development of the campaign finance precedents because it determined that the federal government cannot regulate state primaries. *United States v. Classic* (1941) was significant to Supreme Court precedent because it overturned *Newberry v. United States*. In *Buckley v. Valeo* (1976), the Supreme Court struck down limits on campaign expenditures, but upheld limits on contributions. *McConnell v. FEC* (2003) upheld most of the Bipartisan Campaign Reform Act. In *Wisconsin Right to Life, Inc. v. FEC* (2007), the provision of BCRA that banned issue advertising within sixty days of a general election and thirty days of a primary was overturned. Another provision of the BCRA, the "Millionaire's Amendment," was overturned in *Davis v. FEC* (2008). *Citizens United v. FEC* (2010) overturned the ban on corporations and labor unions from spending money directly on campaigning.

Newberry v. United States

One of the first major Supreme Court cases concerning campaign finance reform was *Newberry v. United States* (1921), which dealt with the Publicity Act of 1910 ("Evolution"). Truman Newberry was convicted of violating the provision of the Publicity Act which put limits on primary spending (Savage). The Constitutional question that Newberry's conviction brought before the Supreme Court involved Article 1, Section 4: "whether under the grant of power to regulate 'the manner of holding elections' Congress may" set limits on spending and contributions for the primary election. To begin his argument in the majority opinion, Justice McReynolds defined the clause's use of "election" when he said that primaries "are in no sense elections for an office but merely methods by which party adherents agree upon candidates whom they intend to offer and support for ultimate choice by all qualified electors." Additionally, he addressed the historical significance of the clause which gave power to Congress to regulate the manner of the elections. To aid his argument, he referred to the original ability of each state's legislature to elect two Senators to represent that state, and to the power given to legislatures in Article 1, Section 4 to regulate the "times, places and manner of holding election for Senators and Representatives." Because of the legislatures' powers in the Senate elections, the original clause allowed Congress to "at any time by law make or alter such regulations, except as to the places of choosing Senators." Justice McReynolds concluded that a primary is a preliminary selection process before a

general election, but that the "selection is no . . . part of the manner of holding the elections." In a 5-4 decision, the Supreme Court held that the court "cannot conclude that authority to control party primaries or conventions for designating candidates was bestowed on Congress by the grant of power to regulate the manner of holding elections" (*Newberry v. United States*). As a result, Truman Newberry's conviction was overturned, the Publicity Act's provision to regulate primaries was stricken, and a precedent that Congress does not have the authority to regulate primaries was established (Savage).

United States v. Classic

The Court's decision in *Newberry v. United States* was challenged and overturned in *United States v. Classic* (1941). The Commissioner of Elections in Louisiana, Patrick Classic, appealed after being charged in federal court with tampering with the ballots in the state primary election, and in 1941 his case reached the Supreme Court in *United States v. Classic*. In his defense, he argued that the precedent set by *Newberry v. United States* dictated that Congress cannot regulate primary elections, thus making his conviction null and solely a matter of state law (Finkelman, "*United States v. Classic*"). The court was left to decide "whether the right of qualified voters to vote in the Louisiana primary and to have their ballots count is a right 'secured . . . by the Constitution.'" In Louisiana's Second Congressional District where the votes were altered, the Democrats dominated, so their primary had virtually become the equivalent of the general election. In the majority opinion, Justice Harlan Stone noted that the Louisiana Secretary of State was prohibited by state law from placing a candidate on the general election ballot that lost in a bid for the nomination in the primary. Because of this primary dependency on the general election, Justice Stone added, "the right of qualified voters to vote at the Congressional primary and to have their ballots counted is thus the right to participate in that choice." In addition, the court ruled that the Constitution regulates elections even if a particular state "changes the mode of choice from a single step, a general election, to two, of which the first is the choice at a primary of those candidates." Since the court now ruled that the Constitutional word "election" can be a one or two step process, Congress now had the power to enforce regulations on state primaries. Commissioner Classic's conviction was thus upheld (*United States v. Classic*).

Buckley v. Valeo

Shortly after the 1971 Federal Election Campaign Act's amendments were passed in 1974, they were challenged in the Supreme Court by lead plaintiff Senator James Buckley, resulting in *Buckley v. Valeo*. The chief argument of the plaintiffs was that the 1974 amendment limits on campaign expenditures and contributions were an infringement of free speech, as provided by the First Amendment. In addition, the plaintiffs charged that the public financing program established in 1971 discriminated against minority parties because the requirements made funds harder to receive and therefore violated the First Amendment. To begin, the court established that there was a "clear and compelling government interest" in protecting the integrity of the electoral structure. In addressing the issue of limiting campaign expenditures, the *per curium* opinion declares that:

A restriction on the amount of money a person or group can spend on political communication during a campaign necessarily reduces the quantity of expression by restricting the number of issues discussed, the depth of their exploration, and the size of the audience reached. . . . The expenditure limitations contained in the Act represent substantial . . . restraints on the quantity and diversity of political speech.

Although the court ruled that limits on campaign expenditures violate the First Amendment, the court upheld limits on contributions as constitutional, saying that, in contrast to limits on expenditures, contribution limits are "only a marginal restriction upon the contributor's ability to engage in free communication." In addition, the opinion argues that the amount is not as relevant as the "symbolic act of contributing . . . [which is] an index of intensity of the contributor's support for the candidate." Also, the court took into account the fact that contributions are critical for the candidate or committee to amass the resources for the expenditures protected by the First Amendment, but found that the limitations from the Federal Election Campaign Act would not have any severe impact on the candidate or committee's funding. In the court's ruling, the court struck down limits on campaign expenditures, but upheld limits on contributions (*Buckley v. Valeo*).

A further issue of campaign expenditures was that of organizations funding advertisements on behalf of specific federal candidates. The FECA sought to regulate these groups' spending to stop the flow of soft money from regulated campaigns to unregulated groups that could spend on their behalf. Although the government had tried to prevent a

loophole for soft money by limiting expenditures by groups spending "relative to a clearly identified candidate," the court said, "the plain effect . . . is to prohibit all individuals . . . , and all groups, except parties and campaign organizations, from voicing their views." Because of the First Amendment infringement, the resulting ruling was that the government's "interest in preventing corruption and the appearance of corruption is inadequate to justify [the] ceiling on independent expenditures." Similar to the limits on independent and personal expenditures was the limit on the candidate's expenditures from his personal funds. Just as the court ruled for independent expenditures, it also ruled that a candidate has the same rights as an individual and that "the prevention of actual and apparent corruption" is not sufficient to restrict the First Amendment right to advocate on one's own behalf by spending personal funds (*Buckley v. Valeo*).

The Supreme Court denied the plaintiffs' claims that public financing for Presidential elections was a violation of the First Amendment. The Justices first pointed out that financing does not prohibit a candidate from getting on the ballot or prohibit voters from casting ballots for their preferred candidates. Since the public financing systems required a candidate to have a certain number of private contributions from across the nation, the court disagreed with the plaintiffs and ruled that "the inability, if any, of minor party candidates to wage effective campaigns will derive not from lack of public funding but from their inability to raise private contributions." Additionally they state that the system has "not unfairly . . . burdened the political opportunity of any party or candidate" (*Buckley v. Valeo).*

The last issue addressed in *Buckley v. Valeo* by the court was that of FECA's enacting of the Federal Election Commission. The appointment of members to the commission was an area of particular concern. According to the FECA, Congressional leadership was to appoint four members, the Secretary of the Senate and the Clerk of the House were to appoint two, and the President was to appoint two. The Supreme Court brought into question the Constitution's provision in Article 2, section 2: "[The President] shall nominate . . . Officers of the United States whose appointments are not herein . . . provided for . . ., but Congress may . . . vest the appointment of such inferior offices . . . in the President alone, in the Courts of law, or in the Heads of Departments." In defining "Offices of the United States," the court associated it "with all persons who can be said to hold an office under the government."

As a result, the court concluded that neither Congressional leadership nor officers of the Congress are equivalent to either the courts of law or heads of departments, and thus it was unconstitutional for Congress to appoint members to the FEC. Furthermore, the appointment authority of Congress was ruled "novel and contrary to the language of the Appointments Clause." In the end, the court struck down limits on campaign expenditures by independent groups and candidates, ruled unconstitutional the appointment process for the FEC, and upheld the public financing system for the President and limits on individual contributions (*Buckley v. Valeo*).

McConnell v. Federal Election Commission

One of the most recent and most important rulings on campaign finance laws came from *McConnell, United States Senator v. the Federal Election Commission*. The Bipartisan Campaign Reform Act had been challenged by a group of cases, which were consolidated into one case with Senator McConnell as chief plaintiff. This case questioned whether the Act violated the First Amendment by infringing on free speech. When preparing to defend Senators McCain and Feingold's Act, McCain's lawyer did not argue with the weakness of the previous precedent, that the government has a compelling interest in regulating corruption or the "appearance of corruption," but rather with the strength that the government was regulating actual corruption. After being asked by the lawyer whether there can be "an appearance of corruption and in fact no reality of it," McCain responded that "yes, there can be, but . . . it doesn't matter because what the American people care about is not only whether things actually happen, but whether they believe things are happening" (qtd. in Cochran, "Campaign Finance: Debate"). As a result, the case would once again focus on "the appearance of corruption." The court's ruling upheld most of the BCRA as constitutional, except that two types of provisions were ruled unconstitutional, namely, those which banned persons under seventeen from contributing to a campaign and those which required parties to choose between coordinated spending or independent expenditures.

Under BCRA, parties could chose to use solely unlimited independent expenditures, which allowed for express advocacy, or to use solely coordinated campaign expenditures, without express advocacy and with limits (*McConnell v. Federal Election Commission*). In *Federal Election Commission v. Colorado Republican Campaign Committee,* the court ruled

that parties have the constitutional right to spend unlimited funds in support of their candidates and struck down that provision of the law, leaving the complicated formula for party financing only to apply to coordinated expenditures. Because of this, a party could choose the coordinated expenditure option and work hand-in-hand with a campaign providing what they need, but the party has a limit of spending $1.6 million, a provision for no "express advocacy," and a limit of $5,000 on independent expenditures. In contrast, working with independent expenditures involved no coordination with campaigns, allowed parties to spend unlimited funds, and allowed them to expressly advocate for a candidate's election. In the majority opinion, Justice Stevens and O'Connor said that this was "the [party's] forfeiture of the right to make independent expenditures for express advocacy." Furthermore, the BCRA required that "all political committees established and maintained by a national political party and all political committees established and maintained by a state political party shall be considered to be a single political committee" (2 USC 441a(d)(4)(B), 2003). Because of this, the decision to choose independent or coordinated expenditures "resides solely in the hands of the first mover." Therefore, if a local party had independent expenditures over the $5,000 limit, the whole party (the RNC/DNC, state parties, etc.) would be bound to use only independent expenditures. The court agreed with District Court in ruling this unconstitutional.

In another provision of BCRA, persons under seventeen were restricted from contributing to a campaign because Congress thought that otherwise parents' money could flow around the limits through their children. Although this may be considered a "compelling government interest," the court affirmed that minors are protected by the First Amendment and that the government "offers scant evidence of this form of evasion." In addition, the court argued that this loophole would already be covered by federal law under FECA, which "prohibits any person from 'mak[ing] a contribution in the name of another person' or 'knowingly accept[ing] a contribution made by one person in the name of another.'" Since these provisions do not pass the narrow tailoring prong of the strict scrutiny test, the Supreme Court ruled that prohibiting minors from contributing to a campaign is unconstitutional (*McConnell v. Federal Election Commission*).

As a result of this ruling, the Supreme Court upheld all of BCRA provisions except the requirement that parties chose between

coordinated and independent expenditure and the provision that prohibited minors from contributing to a political campaign. In dissent of this decision upholding most of BCRA, Justice Scalia, who wanted all of BCRA ruled unconstitutional, called it "a sad day for the freedom of speech," and said that the Act "prohibits the criticism of Members of Congress by those entities most capable of giving such criticism loud voice" (*McConnell v. Federal Election Commission*). Additionally, Justice Rehnquist said that the precedent set in the previous case of *Buckley v. Valeo* "does not give Congress the power to 'regulate willy-nilly' any political contributions" (Jost, "*McConnell*").

Wisconsin Right to Life, Inc. v. Federal Election Commission

The provision upheld in *McConnell v. Federal Election Commission* which prohibited "electioneering communications," or ads mentioning a federal candidate in the days before an election, was challenged in 2006 by *Wisconsin Right to Life, Inc. v. FEC* and in 2007 by *FEC v. Wisconsin Right to Life* (Jost, "*Wisconsin Right to Life*" and "*Federal Election Commission*"). In 2006, the Wisconsin Right to Life, a non-profit corporation, wanted to run several issue television ads within sixty days of an election, which was prohibited by BCRA. They argued that restricting their advertisements would unconstitutionally prohibit them from engaging in their right of "grassroots lobbying." The district court ruled that the *McConnell v. FEC* decision does not allow for exceptions (Jost, "*Wisconsin Right to Life*"). In 2006, the Supreme Court disagreed, saying that the district court "incorrectly read a footnote in our opinion" and that as-applied challenges are allowed. After establishing that *McConnell v. FEC* allowed as-applied challenges to the BCRA provision regulating issue advertising, the Supreme Court remanded the case to the district court to decide on Wisconsin Right to Life's as-applied challenge (*Wisconsin Right to Life, Inc. v. FEC*). Many saw this as a move to postpone the case until the next session, giving the replacement for Sandra Day O'Connor time to get comfortably settled (Jost, "*Wisconsin Right to Life*").

In 2007, when the district court ruled that the electioneering communications ban on the Wisconsin Right to Life was unconstitutional as applied to their particular appeal, the FEC immediately appealed to the Supreme Court, resulting in the 2007 case of *FEC v. Wisconsin Right to Life*. In the majority opinion, Chief Justice Roberts first looked at the fact that WRTL admitted that their ads were prohibited by BCRA, but that "under strict scrutiny, the government must prove that applying BCRA

to WRTL's ads furthers a compelling interest and is narrowly tailored to achieve that interest." So, if an ad is express advocacy, then BCRA applies, but if the ad is not, then the government must "demonstrate that banning such ads during the blackout period is narrowly tailored to serve a compelling interest." While the court ruled in the past that is the government had a compelling interest in "preventing corruption and the appearance of corruption," this principle was applied only to uphold contribution limits. Also, *McConnell v. FEC* justified "the regulation of express advocacy to ads that were the 'functional equivalent' of express advocacy." In contrast, Justice Roberts and the court ruled that "issue ads like WRTL's are by no means equivalent to contributions and the *quid-pro-quo* corruption interest cannot justify regulating them" (*Federal Election Commission v. Wisconsin Right to Life, Inc.*). As a result of this ruling, issue ads were exempted from BCRA, including corporation and labor-union issue ads (Jost, "*Federal Election Commission*").

Davis v. Federal Election Commission

One of the more current Supreme Court cases concerning campaign finance emerged in 2008 in *Davis v. Federal Election Commission*. As a self-funded candidate for the House of Representatives, Jack Davis had to comply with the BCRA provision many call the "Millionaire's Amendment" *(Davis v. FEC)*. Davis had not properly filed one of the post-election notices, so the FEC brought significant fines against him, but Davis appealed to the Supreme Court. The provisions in the Millionaire's Amendment established the "Opposition Personal Funds Amount" (OPFA) which is a maximum of $350,000 until extra regulations go into effect. The OPFA compared two candidates' personal spending and, to a small degree, their fundraising efforts. If this amount exceeded the limit of $350,000, then the self-financed candidate's opponent had contribution limits raised as much as three times the norm, coordinated party expenditures were removed, and individuals were allowed to give despite having already reached their aggregate contributions cap. Within fifteen days of entering the race, a self-financing candidate had to give the FEC a declaration of intent to use personal money and state how much the candidate anticipated spending over the $350,000 cap. In addition, the self-financing candidate must give notice 24 hours before he broke the cap, and afterwards, file every time he spent $10,000 from his personal funds. The non-self-financing candidate was held responsible to review the reports by his opponent and submit his own when he believed the

self-financed candidate had passed the cap. At issue was whether the government could fulfill the "compelling government interest" prong of the strict scrutiny test to regulate self-financing candidates and whether the extra disclosures are constitutional.

Although a compelling government interest had been established in *Buckley v. Valeo* as "preventing the corruption and the appearance of corruption," it was left to the court to decide if this corruption interest applied to the Millionaire's Amendment. In the majority opinion, Justice Scalia referred to the governmental interest in corruption when making the point that "far from preventing these evils, 'the use of personal funds,' we observed, reduces the candidate's dependence on outside contributions and thereby counteracts the coercive pressures and attendant risk of abuse to which . . . contribution limitations are directed" (*Davis v. Federal Election Commission,* quoting from *Buckley v. Valeo*). Additionally, Justice Scalia brought to light the fact that the Millionaire's Amendment required a "candidate to choose between the First Amendment right to engage in unfettered political speech and subjection to discriminatory fundraising limitations." In its holding, the court ruled that the burdens imposed by the Amendment are not justified by "any government interest in eliminating corruption or the perception of corruption." In contrast, however, the government argued that the government's interest was not only in preventing corruption, but also in "level[ing] electoral opportunities for candidates of different personal wealth." Scalia rejected this notion by declaring it "antithetical to the First Amendment" and said that Congress's supposed interest was "dangerous" in its attempt "to use election [law] to influence the voters' choices." Since the government interest behind the Millionaire's Amendment had been ruled unconstitutional, it followed that the amendment itself and the disclosure requirements were also unconstitutional (*Davis v. Federal Election Commission*).

Citizens United v. Federal Election Commission

The most recent Supreme Court decision occurred on January 21, 2010 in the case of *Citizens United v. Federal Elections Commission.* During the 2008 primary season, a non-profit corporation, Citizens United, produced an anti-Hillary Clinton movie called *Hillary* and wanted to advertise its premiere on pay-per-view. The FEC, however, prohibited the advertisements because they ruled them express advocacy. Citizens United lost its case in Washington, D.C.'s Federal District Court, so

it appealed to the Supreme Court, where an argument was tailored attacking BCRA's ban on corporate campaign spending, arguing that the ban infringed on the right to free speech. Ultimately, the court struck down the ban as an undue burden on free speech. In the majority opinion, Justice Kennedy noted that the free speech of media corporations cannot be dismissed simply because they are corporations. Specifically, he noted that "differential treatment of media corporations and other corporations cannot be squared with the First Amendment." Furthermore, in a concurring opinion, Justice Scalia pointed out that the First Amendment was written in terms of the speech itself, not speakers.

Problems, Loopholes, and Possible Solutions

Besides understanding the legislation and litigation, it is also important to look at the problems and loopholes caused by the current campaign finance laws and possible future legislation to address these problems. The Federal Election Commission has been accused by some as lacking authority and has been subject to partisan politics. The outdated Public Financing system has lead many candidates to abandon it, and it is underfunded. As a result of the BCRA, non-profit, non-FEC-regulated 527 groups have arisen to funnel money to campaigns. Another result of the BCRA is the occupation of "bundling," which is a helpful fundraising occupation to boost candidates' fundraising abilities.

Federal Election Commission Gridlock

As a result of partisan politics, the six-member FEC was without its quorum of four members during the 2008 election, so it could not hear or rule on any ethics complaints (Cadei). The first problems arose when President Bush nominated Hans von Spakovsky, who was disliked by Senate Democrats. The Senate Republicans filibustered and refused to vote on each nominee individually, as the Democrats wanted, insisting that they be voted on as one slate. Because of the partisan gridlock in the Senate, the FEC was left helpless for the 2008 Presidential campaign. Controversy erupted when President Bush ousted the sitting Chairman, David Mason, who had criticized some of the McCain campaign finances. Bush chose a new nominee to replace him, and he too was added to the Senate fight. To remedy this problem, some have

proposed replacing the FEC with a new organization, to be called the Federal Election Administration. It would consist of a three-member panel with a chairman serving a ten-year term and two other members from different parties serving six-year terms. In contrast to the FEC, the FEA would actually have the ability to make legal rulings with regard to election law, and would have the power to enforce penalties (Billitteri).

Weak Public Finance System

Another problem that has arisen from current finance law is the weakness of the 1976 Public Financing system. In fact, the public financing spending restrictions per state have not been adjusted since 1976 to take into account the importance of the early primary states, such as Iowa and New Hampshire. As a result, many candidates are reluctant to accept public financing for the primary. In addition to tight spending limits in critical states, many argue that the funds are not available early enough to wage an effective campaign (Panagopoulos 13).

In the general election, the $84.1 million provided can be easily overtaken by campaign costs, and the opponent's fundraising can easily outraise the $84.1 million without using public financing (Billitteri). Although George W. Bush became the first to refuse public financing in the primary, that legacy continued in the 2008 Presidential campaign in which neither McCain nor Obama accepted it (Cadei). In the third quarter of 2007, Obama raised $80.3 million for the primary, almost more than public financing provided for the general election. In contrast, McCain had only raised $32 million (Panagopoulos 12-13). In fact, in January and February of 2008, Obama raised $91 million, clearly showing his ability to raise more than he could gain using public financing. Since Obama had already, in the primary, outraised the amount he would have been allocated for the public financing, there was little reason for him to take public financing for the general election.

In light of these events, one proposal addresses the problems with the public financing system by suggesting that the spending caps be raised. Some politicians also suggest creating an "escape hatch" so if one candidate rejects the financing, the one who accepted public financing would have time to back out. Changing the "income tax check off" law is another possibility to raise the voluntary check off limits and better finance the system (Panagopoulos 13).

527s

One early loophole to result from BCRA is the rise of 527 groups. While BCRA has been successful in banning soft money in parties and candidate committees, non-profit 527 groups, regulated only by the IRS, have arisen. These groups accept soft money and spend unlimited amounts of money in independent expenditures (Billitteri). There has not been a general trend toward increasing 527 spending on the Presidential races. For example, in 2004, 527s were estimated to have spent $600 million, but in 2008, they were estimated to have spent only $424 million (Panagopoulos 12; Schouten). While the result of BCRA in the Presidential election has been to encourage small donation funding (from 24% small donation funding pre-BCRA to 43% small donation funding post-BCRA), BCRA has had the opposite effect on Congressional races where the shift has been from 20% pre-BCRA to 13% post-BCRA. Although the 527s have had less of an impact on the presidential races, their larger donations have shifted to Congressional races, resulting in the decrease in small contributions (Billitteri). Seeing the issue caused by 527s, the House sponsors of BCRA, Representatives Shay and Meehan, introduced the 527 Reform Act that passed the House in 2006 but was not passed by the Senate. By requiring the 527s to register as political committees instead of non-profits, out of regulation by the FEC the 527 Reform Act would extend the same regulatory laws that apply to all other political committees (*Factsheet*).

Bundling

One of the more interesting phenomena that have arisen from the contribution limitations of $2,400 for individuals and $5,000 for PACs is a process called "bundling." Because candidates only have so many connections and official fundraisers, they have begun hiring people on the basis of their connections. These bundlers are very well connected, and must be, because their job is to go to their friends soliciting money for a candidate. Although this may be beneficial to the candidates, sometimes it backfires. Such was the case when one of Hillary Clinton's bundlers, Norman Hsu, raised nearly $850,000 but had to return all of the money when it was brought to light that Hsu had been charged with grand theft (Knight). Bundling is growing so quickly that bundled contributions accounted for nearly 28.3% of the average candidate's fundraising in 2008, compared with 18.2% in 2004 (Panagopoulos 12-13).

Conclusion

Another option that is used in many states is to remove all regulation from the campaign finance system. Many Republicans and Libertarians lean in this direction, and some point out that the two states to receive the highest rating for government management from *Congressional Quarterly* were Virginia and Utah, both of which lack contribution limits (Cochran, "Campaign Finance's Deregulation"). Additionally, political scientists have yet to find statistical evidence that politicians give favors in return for donations. In fact, Panagopoulos asserts that "money can buy access to a politician, but it rarely guarantees an outcome." Surprisingly, one of the chief proponents of deregulation is a former Federal Election Commissioner, Bradley Smith, who asked, "[A]fter nearly a hundred years of trial and error, is it time to ask, 'will anything work?'" (Smith 38).

Not only have the laws and resulting loopholes been critical to the development of the current campaign finance system, but so have the many precedents set by the Supreme Court. Long after the first campaign finance law in 1867, Americans are still skeptical of their government. With the Bipartisan Campaign Reform Act leaving unresolved problems with the FEC, continually soaring campaign costs, public financing of Presidential elections, 527s, and "bundlers," only time will tell if any of the proposals intended to address these problems will result in improved public trust.

BIBLIOGRAPHY

"Action Taken by Congress to Curb Irregularities in Elections." *Congressional Digest* 19.4 (Apr. 1940): 101-6.

Bates, J. Leonard. "Teapot Dome." *Encyclopedia Americana*. Danbury: Grolier Electronic Publishing, Inc. 12 Dec 2008 <http://ap.grolier.com/article?assetid=0380900-00>.

Billitteri, Thomas. "Campaign Finance Reform: Have Efforts to Rein in Political Donations Failed?" *CQ Researcher* 22.18 (June 2008): 505-528.

Buckley v. Valeo. No. 75-436. Supreme Ct. of the United States. 30 Jan 1976.

Cadei, Emily. "Testing the Limits of Public Finance." *CQ Weekly* (10 March 2008): 600-02.

Campaign Finance Institute. *The Election After Reform: Money, Politics, and the Bipartisan Campaign Reform Act*. Lanham, MD: Rowman & Littlefield Publishers, Inc., 2006.

Cantor, Joseph E. *Bipartisan Campaign Reform Act of 2002: Summary and Comparison with Previous Law*. Washington: CRS, 2004.

Citizens United v. FEC. No. 08-205. Supreme Ct. of the United States. 21 Jan. 2010.

Cochran, John. "Campaign Finance's Deregulation Option." *CQ Weekly* (9 July 2007): 1998-99.

_____. "Campaign Finance: Debate Turns to Courts for Closure." *CQ Weekly* (30 Nov. 2002): 3110-16.

Cooper, Mary. "Campaign Finance Reform." *CQ Researcher* 12.10 (Mar. 2000): 259-279.

Davis v. Federal Election Commission. No. 07-320. Supreme Ct. of the United States. 26 June 2008.

"Evolution of Campaign Reform Legislation." *Congressional Digest* 73.4 (Apr. 1994): 99.

Factsheet on 527 Reform Act Page. Senator Russ Feingold. 14 Dec. 2008 <http://feingold.senate.gov/issues_524facts.html>.

Federal Election Commission v. Wisconsin Right to Life, Inc. No. 06-969. Supreme Ct. of the United States. 25 April 2007.

Finkelman, Paul and Melvin Urofsky. "*Buckley v. Valeo*, Landmark Decisions of the United States Supreme Court." *CQ Press Electronic*

Library, CQ Supreme Court Collection (2003). 8 Dec. 2008 <http://library.cqpress.com.eproxy.baylor.edu/scc/lndmrk03-113-6441-348295>.

_____. "*United States v. Classic*, Landmark Decisions of the United States Supreme Court." *CQ Press Electronic Library, CQ Supreme Court Collection* (2004). 14 Dec 2008 <http://library.cqpress.com.eproxy.baylor.edu/scc/lndmrk03-113-6439-345711>.

Gillon, Steven. "*That's Not What We Meant to Do": Reform and its Unintended Consequences in Twentieth- Century America*. New York: W. W. Norton & Company, Inc., 2000.

Jost, Kenneth. "Campaign Finance Showdown." *CQ Researcher* 41.12 (Nov. 2002): 969-92.

_____. "*McConnell, United States Senator v. Federal Elections Commission*." *CQ Press Electronic Library: CQ Supreme Court Collection* (2004). 8 Dec 2008 <http://library.cqpress.com.eproxy.baylor.edu/scc/scyb03-223-9935-641096>.

_____. "*Wisconsin Right to Life, Inc. v. Federal Election Commission*." *CQ Press Electronic Library: CQ Supreme Court Collection* (2006). 8 Dec 2008 <http://library.cqpress.com.ezproxy.baylor.edu/scc/scyb05-421-17807-931911>.

_____. "*Federal Election Commission v. Wisconsin Right to Life*." *CQ Press Electronic Library: CQ Supreme Court Collection* (2007). 15 Dec 2008 <http://library.cqpress.com.ezproxy.baylor.edu/scc/scyb06-849-29195-1370599>.

Knight, Danielle. "A Bunch of Money Trouble." *United States News & World Report* 143.11 (Oct. 2007): 28.

"Main Features of the 1971 Election Reform Laws." *Congressional Digest* 53.2 (Feb. 1974): 37.

McConnell v. Federal Election Commission. No. 02-1674. Supreme Ct. of the United States. 10 Dec. 2003.

Newberry v. United States. No. 559. Supreme Ct. of the United States. 2 May 1921.

Panagopoulos, Costas. "Running with the Money." *America* 198.4 (11 Feb. 2008): 11-14.

Ross, Lee. "Supreme Court Removes Limits on Corporate, Labor Donations to Campaign." Foxnews.com. 21 Jan. 2010. <http://www.foxnews.com/politics/2010/01/21/supreme-court-sides-hillary-movie-filmmakers-campaign-money-dispute/>.

Run Granny Run. Marlo Poras Productions, 2007. 14 Dec. 2008 <http://www.grannyd.com >.

Savage, David G. "Congress's Power to Regulate Elections." *Guide to the United States Supreme Court,*_ 4th ed. (rev), vol. 1. Washington: CQ Press, 2004.

Schouten, Fredreka. "Spending $5.3B on Political Races Looks Scary, But It Could Be Worse." *USA Today* 23 Oct 2008. <http://www.usatoday.com/printedition/news/20081023/1a_bottomstrip23_dom.art.htm>

Smith, Bradley. *Unfree Speech: The Folly of Campaign Finance Reform*. Princeton, NJ: Princeton University Press, 2001.

United States. v. Classic. No. 618. Supreme Ct. of the United States. 26 May 1941.

2 USC. Sec. 441.

Wisconsin Right to Life, Inc. v. Federal Election Commission. No. 04-1581. Supreme Ct. of the United States. 23 Jan. 2006.

Nicolas Poussin draws on the literary traditions of Arcadia and the memento mori *in both his Louvre* Et in Arcadia Ego *and Chatsworth* Arcadian Shepherds. *The artist's use of the Arcadian tradition portrays an idealized life, even as he incorporates death through the* memento mori topos. *Poussin's* Arcadian Shepherds *reflects medieval commonplaces surrounding the* memento mori *tradition; however, his* Et in Arcadia Ego *rejects a Christian understanding of* memento mori *in favor of a philosophic tradition expressed in Michel de Montaigne's Stoic-influenced writings.*

Et in Arcadia Ego: Convergent Literary Traditions

Anna Marie Sitz

Nicolas Poussin's painting known as the Louvre *Et in Arcadia Ego* (late 1630s) presents many interpretive difficulties due to its enigmatic atmosphere and difficult inscription. Poussin (1594-1665) is distinguished throughout his *oeuvre* by his "rational classicism" and emphasis on the intellectual, rather than emotional, aspects of painting;[1] the Louvre painting reveals his classical erudition and knowledge of several literary traditions. An examination of the visual and literary tradition of the two main themes in the *Et in Arcadia Ego* painting, Arcadia and *memento mori,* reveals Poussin's incorporation of these two traditional themes; he moves away, however, from the historic Christian understanding of a *memento mori.*

Along with his earlier treatment of the same subject, known as the Chatsworth *Arcadian Shepherds* (c. 1629), the artist uses the long literary tradition of Arcadia in pastoral poetry in order to illustrate an idealized rustic life, though not untouched by death and nostalgia. While Poussin makes use of these traditions in both paintings, the Louvre painting and the Chatsworth composition differ in their portrayal of the *memento mori topos*. The Chatsworth *Arcadian Shepherds* draws heavily on *memento mori* visual iconography common in medieval and Renaissance art, whereas the Louvre *Et in Arcadia Ego* appeals to an elite audience by more subtly illustrating a philosophic literary tradition. In this second painting, Poussin rejects the traditional Christian understanding of the *memento mori topos* in favor of a more Stoic sentiment, perhaps most pertinently expressed in the writings of Michel de Montaigne (1533-1592).

The Arcadia Tradition

Poussin's Louvre *Et in Arcadia Ego* (Figure 1) includes a painted inscription that locates the scene in Arcadia. "Arcadia" has been synonymous with rural simplicity and contentment ever since it was described in Virgil's *Eclogues,* written around 40 B.C. Prior to Virgil, pastoral poetry was set in Sicily, beginning with Theocritus' *Idylls* in the third-century B.C. By Virgil's day, however, Sicily was just another Roman province; it had been plagued by corrupt government officials, as Cicero argued in 70 B.C. with his oration *In Verrem*. Furthermore, in the Roman mind, Sicily was associated with the Carthaginians and the Punic Wars. It is no surprise that Virgil decided to relocate the pastoral genre to Arcadia, a region of the central Peloponnese known from Polybius for its simple people and good music.[2] Polybius gives a description of the region: "The people of Arcadia have a certain reputation for excellence among all the Hellenes, not only on account of the hospitality and kindness in their customs and lives, but especially on account of their piety towards the divine."[3] Polybius goes on to say that the Arcadians have always cultivated musical skills. Arcadia was also the mythical birthplace of Hermes and Pan; this association with Pan, patron god of shepherds and rural music, perhaps explains the origins of the connection with bucolic relaxation. Virgil took this actual rural area and added the conventions of pastoral poetry: leisurely shepherds engaged in musical competitions, homo- and heteroerotic loves for boys and nymphs, complaints about unavailable lovers, and even laments for dead lovers. Thus, in the literary tradition, Arcadia has always been an idealized realm far removed from the reality of herdsmen, but it also incorporates elegiac themes. Virgil's *Fifth Eclogue* laments the death of Daphnis from unrequited love and gives instructions for his tomb:

> O shepherds, Daphnis commands that these things be done for him—
> Both make a tomb and on it inscribe a song:
> 'I am Daphnis, well-known in the woods, and well-known all the way to the stars,
> Guardian of a beautiful flock, I myself am even more beautiful.'[4]

This is the first tomb in bucolic Arcadia, and it can be viewed as a general precedent to the *Et in Arcadia Ego* tomb; if Poussin had wished to paint the actual tomb of Daphnis, he would have included the identifying

Figure 1. Nicolas Poussin. *Et in Arcadia Ego.* Late 1630s. Oil on canvas. 85 x 121 cm. Louvre, Paris.
Photo by René-Gabriel Ojéda, Réunion des Musées Nationaux / Art Resource, NY.

inscription from the *Eclogue*, rather than the ambiguous inscription that he did use. Still, Virgil's *Eclogues* began the literary tradition on which Poussin's painting is founded.

The Arcadia of Poussin's painting was not merely a relic from antiquity: Virgil continued to be read in medieval times, and the idea of Arcadia had a major resurgence in the humanist circles of Renaissance Florence, especially under the patronage of Lorenzo the Magnificent.[5] The Italian poet Jacopo Sannazaro's *Arcadia* of 1502 focused on the elegiac elements of the pastoral world. Unlike Virgil, who balanced the tragic elements of Arcadia with light-hearted singing competitions and happy lovers, Sannazaro made lost love and nostalgic memories prevalent in this region.[6] The popularity of the Arcadian theme elsewhere in Europe is attested by Sir Philip Sidney's *The Countess of Pembroke's Arcadia*, 1580, which combines the pastoral genre with narrative story-telling.[7] Shortly after Poussin's career, an entire artistic school in Rome was founded around the idea of Arcadia in 1690, called the Accademia degli Arcadia. [8] By choosing to locate his painting in Arcadia, Poussin alludes to a tradition both ancient and still alive in the seventeenth century.

The *Memento Mori* Tradition

In addition to the Arcadia theme, Poussin also incorporates elements of the *memento mori* tradition in his *Et in Arcadia Ego.* Early viewers of Poussin's *Arcadian Shepherds* (Chatsworth, Figure 2) would have interpreted it as a *memento mori*, albeit a subtle one. The visual tradition of reminding the viewer of his or her own death is a familiar aspect of the medieval and Renaissance period. The *Danse Macabre* theme can be found in murals, prints, carvings, and paintings all over Europe from the late Middle Ages onwards. *Danse Macabre* murals or carvings in general depict corpses dancing with living people from all strata of society: both king and pauper, priest and merchant, will be snatched away by death. The popularity of the subject in Poussin's native France is attested by the success of the printer Guyot Marchant's *Danse Macabre.*[9] The first edition, printed in 1485, included both verses and woodcuts drawn from the wall paintings in the Le Square des Innocents cemetery in Paris. *Danse Macabre* was so popular that it continued to be reprinted until the eighteenth-century and was translated into English, Low German, Latin, and Catalan.[10] Hans Holbein the Younger created a whole *Danse Macabre* series of prints from 1523-25.

The iconic *memento mori,* the use of a skull or skeleton by itself to remind the viewer of his own death, appears to have originated in northern Europe, but the motif can be found in Italy as early as 1465.[11] The Triumph of Death was also a common theme, as in Pieter Bruegel the Elder's painting (c. 1562) of the same name, which depicts a hellish landscape brimming with skeletons attacking the living. The famous *Triumph of Death* in the Campo Santo in Pisa (c. 1350) is another interpretation of this motif. The legend of "The Three Living and the Three Dead" also appears in art all over Europe. The legend itself describes the encounter of three men hunting with three corpses, but variations in art often show skeletons or corpses interrupting young men and women who are concerned with vain temporal objects or physical pleasures. The revealing drapery of the shepherdess in the Chatsworth *Arcadian Shepherds* may allude to this tradition of Death disrupting youths engaged in temporal pleasures. Though the atmosphere in this painting is brighter than in other *memento mori* examples and the skull is less noticeable, Poussin's first *Arcadian Shepherds* composition is comprehensible to viewers familiar with common *memento mori* images.

Figure 2. Nicolas Poussin. *Arcadian Shepherds.* 1629. Oil on canvas. 101 x 82 cm. Chatsworth Collection, Derbyshire.

Photo by Erich Lessing / Art Resource, NY.

Poussin's Louvre *Et in Arcadia Ego* alludes less to the visual tradition of *memento mori*, but remains situated in the literary tradition of the *memento mori*; however, one must keep in mind that *memento mori* can elicit many diverse interpretations and reactions. The phrase, which seems to be a shortened form of *memento te moriturum (mortalem) esse*,[12] is translated "remember that you are about to die" or "remember that you are mortal." In ancient times this phrase often inspired a breezy "*carpe diem*" mindset: enjoy life to the fullest today, because soon you will be dead.[13] This view of life even has a biblical precedent; for example, Isaiah writes: "Let us eat and drink, for tomorrow we shall die" (22:13). Ecclesiastes' "a man hath no better thing under the sun, than to eat, and to drink, and to be merry" (8:15) also conveys the common ancient reaction to *memento mori*.[14] Alternatively, in antiquity a *memento mori* could be a caution against excessive pride, as Tertullian records when speaking of Caesar in a triumphal parade: "Even triumphing in that most exalted chariot, he is reminded that he is a man. For it is spoken to him from behind, 'Look behind you, remember (*memento*) that you are a man.'"[15]

Poussin's painting is temporally closer to the medieval era, but it moves away from the typical medieval function of a *memento mori*. In medieval times, the *memento mori* often had a moralizing tone and was generally meant to inspire fear of punishment after death. The *memento mori* theme was often connected with the idea of *vanitas* and transience. These themes can be found as early as the New Testament: Luke 12 records the parable of a rich man who plans to "eat, drink, and be merry" because he has stored up enough grain for many years.[16] The original meaning of the "eat, drink, and be merry" theme from Isaiah and Ecclesiastes is made clear when God demands the rich man's life that very night. Thus, it is vain to store up possessions on earth, since life is fleeting. These very common ideas can be found throughout medieval folklore, such as the legend of "The Three Living and the Three Dead," the *Danse Macabre*, or the related

poem "Vado Mori," which proclaims, "The law of dying, common to pauper and king, gives them a cause for crying."[17] Impending death for all should inspire tears, not "*carpe diem*" feasting. The themes of "The Three Living and the Three Dead" and the *Danse Macabre* emerge not only in poetry and art, but also in morality plays and dramas. An account book of the Duke of Burgundy from 1449 records a payment, interestingly enough, to a painter who, with companions, acted a *Danse Macabre* play.[18] A close connection between the visual and theatrical representations of the motif seems likely.

The Catholic Latin Office for the Dead (*Officium Defunctorum*) embodies medieval sentiment concerning death. It declares in the third Nocturn of Matins: "Fear of death dismays me (*timor mortis conturbat me*), I who sin daily and do not repent: because there is no redemption in Hell, have mercy on me, O God, and save me."[19] It is appropriate to fear death because of the possibility of eternal punishment. The phrase "*timor mortis conturbat me*" inspired several poems, including William Dunbar's 1508 "Lament for the Makaris," which uses the Latin as a refrain:

> Our pleasance heir is all vane glory,
> This fals warld is bot transitory,
> The flesche is brukle, the Fend is sle;
> *Timor mortis conturbat me.*[20]

An entire genre of *memento mori* poems can perhaps be traced to a poem attributed to St. Bernard of Clairvaux, that notes life's brevity ("How brief a festival is this glory of the world!") and exhorts the reader to repent for sins committed ("Make good for all things for however long you will be able").[21] As Morris summarizes, *memento mori* poems are intended to inspire fear of death but also to reaffirm the faith—it is only unrepentant or unthinking sinners who need to fear eternal punishment.[22] Ecclesiasticus 7:40 epitomizes the medieval view towards the *memento mori* theme: "In all thy works remember thy last end, and thou shalt never sin."[23]

In order to remind readers that death comes to all, both the great and small, *memento mori* poems often include the "*ubi sunt*" motif, in which the poet asks where famous men of the past are now. Poussin engages this literary theme while also rejecting it. A viewer might expect the tomb inscription to reveal the name of a mythological hero, but

instead the tomb remains anonymous. The "*ubi sunt*" was well-known in the Christian tradition. St. Bernard questions:

> Tell me where is Solomon, once so noble,
> or where is Samson the invincible leader…
> Tell me where is bright Tullius the eloquent,
> or Aristotle the highest in talent?[24]

In 1461 the French poet François Villon inquires where the notable women of the past are and famously asks, "But what's become of last year's snows?"[25] The "*ubi sunt*" theme can also be applied to physical possessions, as found in Daniel Featley's funeral sermon: "Where is now our gay and gorgeous Apparel? Where are our sumptuous Hangings? . . . All these things are vanish'd like Shadows."

Medieval guides to Christian devotion also promote meditation on death as salutary. Thomas à Kempis instructed readers to consider how soon their lives will end and what may be in store for them elsewhere; furthermore, he says, "You would correct yourself more earnestly if you would think more of an early death."[26] St. Francis de Sales also includes a "Meditation on Death" in his *Introduction to the Devout Life* and emphasizes the certainty of dying: "Only one thing is certain: we will die, and sooner than we think."[27] Thus, the traditional Christian view of the *memento mori* can be summarized as follows: death comes to all, even the greatest men; physical objects and pleasures are transient; death should be feared because of the potential for damnation; finally, Christians should frequently think about death in order to avoid sin and focus on the eternal instead of the temporal.

Interpreting Poussin's Painting

With this understanding of the common cultural background of the Arcadian and *memento mori topoi*, we can now consider the way that Poussin incorporates elements of these traditions, but ultimately challenges the Arcadian and *memento mori* themes. A basic examination of the painting is first in order. The Louvre *Et in Arcadia Ego* shows four figures, three male and one female, gathered around an unadorned rectangular tomb. The men are identified as shepherds or swains by their staffs; they wear simple, classical garments, and two of them are crowned with leafy garlands. The female figure is clothed more fully

and stands taller than the rest. Her arm rests on the back of one of the shepherds, who looks up at her and points toward an inscription on the tomb. Another shepherd kneels as he examines the inscription and traces it with his finger. The third man leans against the tomb in a relaxed manner as he watches the kneeling shepherd. All the figures are idealized and clearly evoke the classical past. The background is likewise idealized in a manner familiar from Poussin's landscape paintings.

Despite Poussin's instructions to viewers of paintings to "read the story and the picture,"[28] *Et in Arcadia Ego* presents many difficulties of interpretation because it is not clearly based on any specific "story" or text. Various scholars have attempted to identify the figures and occupant of the tomb; for example, Marin argues that the female figure is a representation of Mnemosyne (Memory).[29] I have not found any compelling arguments concerning the identification of the figures—the lack of a single literary source, iconographic attributes, and artist's commentary suggests that the painting is perhaps a generalization rather than a depiction of a specific story or allegory. It is true that Poussin distinguishes the female figure from the shepherds, but she seems to be merely a nameless nymph, one of the many who populate Arcadia in the pastoral poetry tradition. Because she is immortal, she does not concern herself with the tomb, as the shepherds do.

The greatest difficulty the painting presents is not the identification of figures, but rather the ambiguous Latin inscription on the tomb for which the painting is named: ET IN ARCADIA EGO. The lack of a verb, the different possible interpretations of "et," and the unspecified "ego" have created a great deal of confusion concerning the meaning of the phrase, as demonstrated in Panofsky's landmark article, "*ET IN ARCADIA EGO:* Poussin and the Elegiac Tradition." Panofsky shows that, grammatically, the phrase can only be translated as "Even in Arcady, there I am."[30] He cites numerous examples from poetry and literature of the mistranslation: "I too lived in Arcady." Panofsky traces this mistranslation to the Louvre *Et in Arcadia Ego* painting and claims that "I too lived in Arcady" is, in fact, the correct interpretation of the sentiment expressed by the inscription on the tomb, despite its grammatical impossibility.

Poussin's direct artistic precedent is Guercino's *Et in Arcadia Ego* (c. 1620), which contains the earliest known instance of the phrase Poussin adopted for the Chatsworth and Louvre paintings. Guercino depicts two surprised shepherds stumbling upon a grotesque skull atop

a simple tomb with the inscription "ET IN ARCADIA EGO." In this context, the phrase is best interpreted, "I [Death] am even in Arcadia," with the skull representing death. The dark atmosphere of the painting is certainly foreboding and in line with the traditional idea of a *memento mori*. From this precedent, Poussin, around 1630, created the Chatsworth *Arcadian Shepherds*. In the composition, he retains the skull sitting above the tomb inscription, although his skull is more subtle than Guercino's. Death is still the speaker; he reminds the youthful shepherds, who lean toward the tomb in surprise, that their own deaths are impending. Thus, Poussin's first *Arcadian Shepherds* painting draws heavily from the rich visual tradition of *memento mori* paintings, common throughout Europe in his time, which Guercino also imbibed.

When Poussin painted his second *Et in Arcadia Ego*, however, the traditional iconography of a *memento mori* painting disappears. The youths do not seem shocked by the presence of death, there are no implements of *vanitas* or hints of immorality, and, most significantly, the skull is missing. The atmosphere is generally bright and pleasant. Thus, I suggest that the Louvre *Et in Arcadia Ego* moves away from the traditional Christian *memento mori* paintings, poems and devotionals; other sources must be sought for this painting. In the post-Renaissance atmosphere that encouraged the study of the ancients, it is not surprising that Poussin and, presumably, his educated patrons looked outside of the medieval era for philosophical ideas. Ancient philosophies were absorbed and propounded by the educated elite across Europe. Poussin emphasizes a view of *memento mori* expressed particularly well in the Stoic writings of Montaigne. Poussin was evidently well-educated and intellectual, and he often chose subject matter for his paintings himself.[31] It is probable, therefore, that Poussin personally, rather than merely his patron (unknown for this painting), was familiar with the elite literary traditions that influenced the Louvre *Et in Arcadia Ego*.

Poussin and Montaigne

Poussin's Louvre *Et in Arcadia Ego* illustrates an alternative *memento mori* concept found in the Stoic-like sentiments of Michel de Montaigne. That Poussin was familiar with Montaigne is certain: Poussin refers to Montaigne in a 1648 letter to his long-time patron Jean Fréart de Chantelou.[32] As Cropper and Dempsey amply demonstrate in their book chapter "Painting and Possession: Poussin's *Self-Portrait*

for Chantelou and the *Essais* of Montaigne," this French thinker's ideas influenced a great deal of Poussin's work as well as his self-perception. This connection goes further, for Montaigne's ideas about death, found in his essay "To philosophize is to learn how to die," are similar to the ideas suggested by the Louvre *Et in Arcadia Ego.*

In "To philosophize is to learn how to die," Montaigne sums up his own habits by saying, "Let us have nothing more often in mind than death."[33] Montaigne emphasizes the certainty of death and its often unexpected arrival, giving examples both from history and his own family. Like other *memento mori* writers, Montaigne writes, "Let us never be carried away by pleasure so strongly that we fail to recall occasionally how many are the ways in which that joy of ours is subject to death."[34] Unlike those of more traditional Christian thinkers, this meditation on death is not meant to inspire fear of potential future punishments, but rather to alleviate fear of the act of dying. Despite his Catholic faith, Montaigne rarely mentions the afterlife or the problem of sin in this essay. Instead, it is fear of death itself that is the problem: he writes that the soul must be trained for the "encounter" with death.[35] In short, "A man who has learned how to die has unlearned how to be a slave. Knowing how to die gives us freedom from subjection and constraint."[36] Rather than concerning himself with sin and the possibility of hell, Montaigne claims that his soul "has made herself Mistress of her passions and lusts, Mistress of destitution, shame, poverty and of all other injuries of Fortune."[37] These ideas of overcoming Fortune's vicissitudes and alleviating fear of death by training the soul derive from ancient philosophers, especially the Stoics. Montaigne frequently quotes from Seneca the Younger and other ancient writers. Thus, Montaigne preserves the traditional *memento mori* idea that death comes quickly and certainly, but he also rejects the more pointedly Christian notion that fear of death is beneficial because it inspires repentance.

It is this classical rather than Christian understanding of a *memento mori* that most informs Poussin's *Et in Arcadia Ego*. Just as Montaigne has freed himself from fear of death by keeping it always in mind, the shepherds in the painting are engaged in calm meditation on death as represented by the tomb. Unlike the "ordinary" people Montaigne describes, who avoid all thoughts or mention of death and consequently are terrified by it,[38] Poussin's figures crowd around the tomb, touch it physically, and examine it carefully. The man in red appears to ponder a question, but he is not anxious. The inscription functions as a reminder

that death is present even in pleasant Arcadia, but it does not encourage the figures to "eat, drink, and be merry." Nor does it frighten them into an examination of the self and cause repentance for sins. Instead, death is accepted and contemplated, and in this way the fear associated with mortality is eliminated.

Certainly, Michel de Montaigne was not the only writer in his era penning neo-Stoic treatises. Poussin, or perhaps his patron or advisor, may have absorbed similar ideas from a number of sources. A comparison, however, of *Et in Arcadia Ego,* with Montaigne's "To philosophize is to learn how to die" shows that Poussin's painting could very well be a visual expression of Montaigne's words. In the *Et in Arcadia Ego* painting, Poussin has painted Arcadia as idyllic but tinged with loss, in line with the tradition of the Arcadian theme going all the way back to Virgil. In light of his earlier *Arcadian Shepherds* painting and Guercino's *Et in Arcadia Ego* painting, the tomb in the Louvre *Et in Arcadia Ego* painting clearly alludes to the theme of *memento mori*, which also is a theme reaching back to antiquity. Poussin has, however, moved away from the traditional medieval Christian visual and literary tradition of *memento mori.* In its place, he has emphasized calm, rational acceptance of death, rather than invoking fear of the afterlife. This Stoic calm in the face of the mystery of death and the inherently ambiguous inscription contributes to the painting's enigmatic ambience.

NOTES

[1] Janson, 737.
[2] Panofsky, 298.
[3] *Histories*, IV.20, my own translation.
[4] Virgil, *Eclogue.* V. 41-44, my own translation.
[5] Panofsky, 303.
[6] Ibid., 304. See Jacobo Sannazaro, "Arcadia."
[7] Rees.
[8] Minor.
[9] Clark, 24.
[10] Ibid., 27.
[11] Janson, 243.
[12] Edwards, 10.
[13] Clark, 2.

[14] KJV.
[15] Caput, 33, lns. 24-26, my own translation.
[16] Luke 12:19, KJV.
[17] Quoted in Hammond, 401, my own translation.
[18] Clark, 92.
[19] My own translation from the Latin printed in 1729.
[20] Lines 5-8.
[21] Morris, 1035, my own translation.
[22] Ibid.
[23] Douay Rheims version.
[24] My own translation.
[25] Villon, *Le Testament*, ln. 336, translated by Barbara N. Sargent-Bauer.
[26] Book I, chapter 21.
[27] Part I.13.
[28] Letter to Chantelou, Rome, 28 April 1639. Quoted in Marin, 229.
[29] "Towards a Theory of Reading," 82-3.
[30] Panofsky, 296-297.
[31] Harris, 285.
[32] In this letter, Poussin writes, "I only dedicate it to you in the manner of Michel de Montagne [sic], not as something good, but as the best I could do." Quoted and translated by Cropper and Dempsey, 197.
[33] Montaigne, 96.
[34] Ibid.
[35] Ibid., 101.
[36] Ibid., 96.
[37] Ibid., 102.
[38] Ibid., 92.

BIBLIOGRAPHY

Carrier, David. *Poussin's Paintings: A Study in Art-Historical Methodology*. University Park: Pennsylvania State University Press, 1993.

Clark, James M. *The Dance of Death in the Middle Ages and the Renaissance*. Glasgow: Jackson, Son & Company, 1950. In *Death and the Visual Arts*. Ed. Gordon Geddes et al. New York: Arno Press, 1977.

Cropper, Elizabeth and Charles Dempsey. *Nicolas Poussin: Friendship and the Love of Painting*. Princeton: Princeton University Press, 1996.

de Sales, Francis. *Introduction to the Devout Life*. Trans. John K. Ryan. New York: Doubleday, 2003.

Dunbar, William. "Lament for the Makaris." Printed by Chepman and Myllar, Edinburgh, 1508. Web Development Group, University of Toronto Libraries, 2009.

Edwards, W. M. "*Immemores Mori*: Valerius Flaccus vi. 239-42." *The Classical Review* 4.1 (1954): 9-10.

Featley, Daniel. "Philip's Memento Mori: or, the Passing-Bell." London: D. D., 1708. *Eighteenth Century Collections Online,* Gale Group.

Hammond, Eleanor Prescott. "Latin Texts of the Dance of Death." *Modern Philology* 8.3 (1911): 399-410.

Harris, Ann Sutherland. *Seventeenth-Century Art & Architecture*. 2nd Edition. Upper Saddle River: Pearson Education, Inc., 2008.

Janson, H. W. *Janson's History of Art*. 7th edition. Ed. Penelope J. E. Davies et al. Upper Saddle River: Pearson Education, Inc., 2007.

_____. "A '*Memento Mori*' among Early Italian Prints." *Journal of the Warburg and Courtauld Institutes,* 3.3/4 (1940): 243-248.

à Kempis, Thomas. *The Imitation of Christ*. Trans. Aloysius Croft and Harold Bolton. Mineola: Dover Publications, Inc., 2003.

King James Bible. Grand Rapids, MI: Zondervan, 2000.

Marin, Louis. *Sublime Poussin*. Trans. Catherine Porter. Stanford: Stanford University Press, 1999.

_____. "Towards a Theory of Reading in the Visual Arts: Poussin's 'The Arcadian Shepherds.' In *The Art of Art History*. New York: Oxford University Press, 1998.

Minor, Vernon Hyde. *The Death of the Baroque and the Rhetoric of Good Taste*. New York: Cambridge University Press, 2006.

Montaigne, Michel de. *The Complete Essays*. Trans. M. A. Screech. New York: Penguin Books, 1987.

Morris, Harry. "'Hamlet' as a '*Memento Mori*' Poem." *PMLA* 85.5 (1970): 1035-1040.

The Office for the Dead: in Latin and English. London: Printed for Thomas Meighan, Drury Lane, 1729. *Eighteenth Century Collections Online,* Gale Group.

Panofsky, Erwin. "*ET IN ARCADIA EGO:* Poussin and the Elegiac Tradition." In *Meaning in the Visual Arts.* 295-320. Garden City: Doubleday Anchor Books, 1955.

Polybius. *The Histories.* Greek text, Theodorus Büttner-Wobst after L. Dindorf. Leipzig: Teubner, 1893.

Rees, Joan. *Sir Philip Sidney and* Arcadia. Cranbury: Associated University Presses, Inc., 1991.

Sannazaro, Jacopo. "Arcadia." *The Major Latin Poems of Jacopo Sannazaro.* Trans. Ralph Nash. Detroit: Wayne State University Press, 1996.

Tertullian. *Apologeticus Adversus Gentes Pro Christianis.* Ed. T. Herbert Bindley. London: Clarendon Press, 1889.

Virgil. *Eclogues*. Edited with an Introduction by Robert Coleman. New York: Cambridge University Press, 1977.

Villon, François. *Complete Poems*. Trans. Barbara N. Sargent-Baur. Toronto: University of Toronto Press, 1994.

Wright, Christopher. *Poussin Paintings: A Catalogue Raisonné.* London: Harlequin Books Ltd., 1985.

ABOUT THE AUTHORS

MYLES BAKER is a junior Mathematics major at Baylor University. After graduation, he plans to apply to graduate school in applied and computational mathematics, concentrating on solution methods to nonlinear partial differential equations. Outside of class, Myles enjoys practicing the piano, as well as 2D design and drawing. He also participates in Baylor's Concert Choir, the technical staff of *The Pulse,* and Baylor's international student foundation activities. At the 2010 Joint Mathematics Meeting in San Francisco, Myles's research was critically acclaimed and recognized among contemporary research. He is currently involved in researching the elusive Navier-Stokes equations and perturbed solutions of convection-dominated diffusion PDEs.

TIMOTHY BRANSFORD is a junior Environmental Science major from San Antonio, Texas. He is interested in fields such as conservation biology, ecology, and sustainable development, and hopes to pursue a graduate degree after receiving his Bachelor of Science from Baylor University. Tim has received an URSA grant from Baylor for the summer of 2010 to participate in a reintroduction study of red-capped mangabeys in Cross River State, Nigeria. During his time at Baylor, he has been an active member of the service fraternity Kappa Kappa Psi, the Golden Wave Marching Band, and the Courtside Players. In his free time, Tim enjoys traveling, hiking, and spending time with his family.

KEVIN GEORGAS is a senior Great Texts major from Plano, Texas. After graduating from Baylor, Kevin plans to teach high school in Waco, Texas. He is a member of Calvary Baptist Church, and when he is not reading and writing, he enjoys nothing more than watching a good baseball game.

MATTHEW HRNA, a junior at Baylor University, is double-majoring in Math and Economics with a minor in Political Science. He is active in local politics, having participated in a campaign for state representative Ken Legler in his hometown of Pasadena, Texas. He also founded the Baylor College Republicans during the 2008-2009 academic year and served as the president. He plans to attend graduate school and earn a PhD in Economics.

ANNA SITZ is a senior from Benton, Arkansas, majoring in University Scholars with concentrations in Classics and Art History. Anna enjoys combining her interests through studying ancient art, especially Byzantine art and archaeology. She has pursued research in art and classics by writing a thesis on Virgil's illustrated manuscripts, and she presented a conference paper on Virgil's *Fourth Eclogue* at CAMWS in 2009. At Baylor Anna has consistently made the Dean's List, served as the secretary and president of Eta Sigma Phi, achieved high honors on national Greek and Latin exams, and has been selected for membership in Phi Beta Kappa. This fall, Anna will pursue her interests in art and archaeology at the University of Pennsylvania.