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EDITOR'S INTRODUCTION

This edition of the *Wagner Forum for Undergraduate Research* is a special issue devoted entirely to the Senior Program. Unlike previous issues it is separated into five sections corresponding to each of the major divisions. All papers are representative of work performed in conjunction with the 2003 Senior Reflective Tutorial or associated capstone course(s). They show the enthusiasm of our students and progress made through the Wagner Plan.

From the sciences, is a paper by Janette Lebron on an extremely rare genetic disease that causes children to age prematurely. Then, in the social science section, Claire Lippmann investigates through a case study how a two-year-old adjusts to being away from mommy and familiar surroundings for the first time. Also, be sure not to miss an examination of a 20th century composer's early works and a first for the journal – a paper written entirely in Spanish.

Read on and enjoy!

Gregory Falabella and Richard Brower, Editors

Section I: The Sciences

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Section III: Performing and Visual Arts

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Section I: The Sciences

Too Young to Be Old: The Cause of Hutchinson-Gilford Progeria Syndrome

Janette Lebron[1] (Biology)

I. Introduction

Hutchinson-Gilford Progeria Syndrome (HGPS) is an extremely rare genetic disease. HGPS causes children to age prematurely. The reported birth incidence is about one in eight million. It is characterized by dwarfism, baldness, pinched nose, small face and small jaw, delayed tooth formation, wrinkled skin, diminution of subcutaneous fat, stiff joints, and premature arteriosclerosis. Death occurs on average at age 12, usually from myocardial infarction (heart attack) or stroke.

In 2003, the cause of HGPS was discovered as a *de novo* mutation in the LMNA gene on chromosome 1 during spermatogenesis. The LMNA gene codes for A-type lamin proteins, which are important for normal function of the nuclear envelope in the cell. This discovery has supported the long time argument that the mode of inheritance for HGPS is sporadic autosomal dominant mutation due to paternal age effect (Brown, 1992). This discovery also adds HGPS to long list of laminopathies. Laminopathies are diseases caused by mutations in the LMNA gene. Other laminopathies include Emery-Dreifuss Muscular Dystrophy, types 2 and 3; Limb-girdle muscular dystrophy, type 1B; Charcot-Marie-Tooth disorder, type 2B1; Dunnigan type of familial partial lipodystrophy; Mandibuloacral dysplasia; familial form of dilated cardiomyopathy; and a subset form of Werner's Syndrome.

II. Historical Background

Johnathan Hutchinson first reported this syndrome in 1886 as a case of "congential absence of hair and its appendages." Hutchinson published a report in 1895 about a second patient with similar characteristics. Hastings Gilford described these two patients further in 1897 and 1904. Gilford named the syndrome "progeria." The word progeria has Greek roots meaning "before old age" (DeBusk, 1972)

During the 1900s, close to one hundred cases of classical Hutchinson-Gilford Progeria Syndrome have been reported. Today, there are about forty known cases of

[1] Research performed under the direction of Dr. Ammini Moorthy (Biological Sciences)

progeria in the world. Chances are there are certainly more cases, but they are not reported or diagnosed correctly.

III. Clinical Features

Individuals with HGPS generally appear normal at birth, but by 1 year of age, severe growth retardation is observed. Generally, individuals are of short stature and the weight to height ratio is low. Complete sexual maturation is absent. The skin appears dry and wrinkled. Prominent superficial veins are seen. There is widespread loss of subcutaneous fat tissue. Characteristic head features include craniofacial disproportion, micrognathia, alopecia, scalp veins and eyes are prominent, and a "plucked-bird" appearance. Eyebrows and eyelashes are absent. Dentition is delayed and is abnormal. The voice is thin and high-pitched. Thin limbs, stiff joints, coxa valga, and "horse-riding" stance are all observed (DeBusk, 1972).

Individuals with progeria have a normal to above-average intelligence. The average age of death is 12 years of age. Almost all deaths are due to myocardial infarctions or congestive heart failure. Atherosclerosis, with interstitial fibrosis of the heart, is usually seen in autopsy reports (Brown, 1992).

HGPS is known as a segmented progeroid syndrome. Not all systems of the individual's body show signs of advanced aging. Some of the features often associated with normal aging such as tumors, cataracts, diabetes, and hyperlipidemia are not usually present.

IV. Psychosocial Aspects of HGPS

The death of a child is one of the most devastating experiences a family can encounter. The family puts all its energy and attention on the ill child. During this time, changes occur in family members' emotional, spiritual, and cognitive states (Livneh et al, 1995).

The parents of the child have an enormous emotional and spiritual reaction to the death of the child. Emotional reactions usually include those of anxiety, denial, depression, guilt, overprotection, and anger. Parents have an overwhelming fear of losing their child and feel helpless and powerless. They experience separation anxiety when most of the control over the child is given to medical personnel. Parents may experience denial of the reality of the disease and have unrealistic hope. Anger is another reaction often observed in parents of dying children. Anger may be displaced toward external sources, for example caregivers and God (Livneh et al, 1995).

Parents often experience spiritual unrest. They feel the world is unjust and search for meaning during their time of pain. Their child's death serves as a catastrophic blow to their future hopes and dreams (Livneh et al, 1995).

Siblings of the ill child have unique reactions to the child's death. Children and adolescents proceed to grieve more rapidly for the dead sibling, compared with their parents. Siblings generally keep their grief private. Behavioral problems may begin at school as a result of not outwardly expressing their grief. As a result of the death of their sibling, children become more aware of threats to life and of the finality of death (Livneh et al, 1995).

V. Biochemistry Involved with HGPS

Eukaryotic cells have nuclear and cytoplasmic compartments that are separated by the nuclear envelope. The nuclear envelope is a large intricate structure made up of outer and inner lipid bilayer membranes, nuclear pore complexes, nuclear lamina, and chromatin. The outer nuclear membrane is continuous with the endoplasmic reticulum and is covered by ribosomes. The two membranes are 20-40nm apart and connected at the nuclear pore complexes. The nuclear pore complexes are large protein structures that allow transport of macromolecules between the cytoplasm and the nucleus. The nuclear lamina is a proteinaceous meshwork of intermediate filaments (IF) associated with the inner nuclear membrane through interactions with integral membrane proteins (Goldberg et al, 1999; Hutchison et al, 2001).

The inner nuclear membrane and the nuclear lamina (Fig. 1) are involved in several biological functions, including: regulation of the nuclear envelope shape and structure; disassembly and reassembly of the nuclear envelope during mitosis; providing anchoring sites for chromatin and affecting higher order chromatin organization; lamins are needed for the elongation phase of DNA replication; lamins are important for initializing and completing apoptosis and lamins interlink adjacent nuclear pore complexes (Goldberg et al, 1999).

Nuclear lamins are the major components of the lamina. Lamins associated with the nuclear lamina are classified as type V IFs. They share a common primary sequence consisting of globular N-terminal (amino end) and C-terminal (carboxyl end) domains and a central alpha-helical rod domain. The rod domain can be divided into four alpha-helical segements, coil 1a, coil 1b, coil 2a, and coil 2b, which are separated by non-alpha-helical linker sequences (Fig. 2). Lamins are classified as either A-type or B-type, depending on their primary sequence, behavior at mitosis and tissue-specific expression patterns (Hutchison, 2001).

Type B lamins are expressed in all somatic cells and remain associated with membrane vesicles during mitosis. The B-type lamins include B1 and B2, which are the

products of two separate genes, LMNB1 and LMNB2 respectively. Type A lamins are expressed in differentiated cells and are soluble during mitosis. The A-type lamins, lamin A and lamin C, are products of one alternatively spliced gene, LMNA gene (Goldberg et al, 1999).

Type A Lamins

The lamin A/C gene (LMNA gene) maps to chromosome 1q21.2-21.3. The LMNA gene has 12 exons. The genes measure to be 57.6kb (Lamin A/C, 2003). Lamin A is coded by exons 1-12 and lamin C by exons 1-10. Precursor messenger RNA (mRNA) has internal sequences that interrupt the protein-encoding sequence. The internal sequences which are removed are called "introns" and the sequences that remain in the processed mRNA are called "exons." A splice site within exon 10, located just upstream of the stop codon for lamin C, splices together with exons 11 and 12 to code for lamin A (Eriksson et al, 2003).

Lamin A is 664 amino acid protein with a molecular weight of 70 kDa (Lamin A/C, 2003). A nuclear-localization signal (NLS) is located close to the alpha-helical rod domain. The NLS is necessary for nuclear import. The C-terminal end of lamin A contains a sequence motif CaaX (C, cysteine; a, any alipathic amino acid; X, any amino acid). The motif is modified by farnesylation of the C-terminal cysteine residue (a single nucleotide in a nucleic acid). A farnesyl group is attached to the C-terminal motif CaaX and is a membrane attachment device. That is followed by cleavage of the three N-terminal residues and carboxy-methylation of the cysteine. After nuclear import, the C-terminal 15 residues of lamin A are removed by proteolytic cleavage to yield mature lamin A (Hutchison et al, 2001). Lamin C is a 572 amino acid protein. It differs from lamin A in that it lacks the final 82 amino acids, including the CaaX motif. Lamin C is not modified throughout its lifetime (Lamin A/C, 2003).

VI. Progeria Genetics

The mode of inheritance for HGPS is sporadic autosomal dominant. A *de novo* mutation occurs in the LMNA gene during spermatogenesis. HGPS is only known to be paternal in origin (Eriksson et al, 2003).

The most common HGPS mutation is a C (cytosine) to T (thymine) in the context of a CpG dinucleotide. Cytosine is the most mutable base in the vertebrate genome, as a methylated C can be deaminated to T and miscopied. The mutation on codon 608, G608G (GGC>GGT) is a silent mutation because these two codons encode for G (glycine). A codon is a section of DNA, three nucleotide pairs long, that encodes for an amino acid. Another mutation in the same codon G608S (GGC>AGC) results in a

substitution of serine for glycine. These mutations activate a cryptic splice site (Eriksson et al, 2003).

Lamin A is normally synthesized as a precursor molecule, prelamin A. The codon 11 HGPS mutations and consequent abnormal splicing would produce a prelamin A that has the CaaX motif, but is missing the site of endoproteolytic cleavage. Also, cell-cycle-dependent phosporylation of lamin A is important for its normal function, and one site for phosphorylation is deleted in the abnormal HGPS protein. The incompletely processed prelamin A acts as dominant negative, because mature lamin A is never received by the nuclear lamina to perform normal functions (Eriksson et al, 2003).

Why are muscle and skeletal cells affected the most?

The nuclear envelope is vulnerable to damage in contractile tissues such as skeletal and cardiac muscle. The nuclear envelope in these cells is more vulnerable because B-type lamins are expressed at reduced levels. Mutations in lamina proteins destabilize the association of lamins to the nuclear envelope. The lamina as a whole would become less effective as a load-bearing structure, particularly in muscle. Ultimately, this general fragility translates into physical damage leading to cell death and tissue damage. The nuclear envelope in these cells is fractured and there is leakage of lamins and chromatin into the cytoplasm. The damage is limited in skelelal muscle because the muscle fibers are a syncitium, and not all nuclei will be damaged within a single muscle fiber. A syncitium is a mass of multinucleated cytoplasm without division into separate cells. Unfortunately, in cardiac muscle, loss of individual cardiomycotes will be cumulative and will eventually lead to conduction blocks (Hutchison et al, 2001).

VII. Treatments

Low Dose Aspirin Treatment and HGPS

Children with HGPS are at high risk for heart attacks and thrombotic strokes. Studies in adults show that the benefits of low dose aspirin therapy increase with increasing cardiovascular risk. Low dose aspirin may help to prevent atherothrombotic events, by inhibiting platelet aggregation (Gordon et al, 2002).

Nutritional Supplements and HGPS

Nutrition is a difficult daily aspect of HGPS because these children often have poor appetites. Improved caloric intake may result in better skin and nail health and improved energy level and mood. Some children with HGPS have high cholesterol, and all children with HGPS develop heart disease. Nutritional supplements help provide

balanced nutrition including carbohydrates and fats. Some products that can be bought for extra nutrition are Pediasure, Ensure, Boost, and Enlive! (Harten, 2002).

Emotional Support

The Sunshine Foundation is a wish granting organization founded in 1976. The foundation helps seriously ill, physically challenged, and abused children by taking all responsibilities to make their wishes come true. Most of the funding is in the form of donations. One of the main events that the Sunshine Foundation does annually is a reunion for all known children who suffer from HGPS. Sunshine has sponsored 21 Annual Progeria Reunions to date. For one week, the children enjoy the company of other children like themselves (Sunshine Foundation, 2003-2004).

The Progeria Research Foundation was created in early 1999 by Dr. Leslie Gordon and Dr. Scott Berns. They organized PRF some time after they were given the news that their son was diagnosed with HGPS. PRF is the only non-profit- organization in the world dedicated to progeria research. PRF runs the Cell and Tissue Bank and Medical Database for children with progeria and their families. PRF played an important role, along with the National Institute of Health, in the discovery of the gene, LMNA gene, that causes HGPS. All researchers and staff working for PRF volunteer their time and energy to find a cure for HGPS. (Progeria Research Foundation, 2003).

RNA interference

The genome inside every cell contains thousands of genes. If the cell left itself unchecked every gene would be transcribed simultaneously. To allow the cell to function normally, generally, a gene's DNA code is transcribed to messenger RNA (mRNA) only if a particular protein assemblage has docked on the promoter region in the gene.

Some genes are so dangerous to the cell, that it should never be expressed. One way for the cell's systems to censor gene expression is called RNA interferene (RNAi). When a threatening gene is expressed, the RNAi machinery silences it by intercepting and destroying only that particular gene's mRNA, without disturbing the messages of other genes. This censoring system is seen in many different organisms, like plants, nematodes, *Drosophila*, and humans (Lau et al, 2003).

Scientists are looking into ways of using RNAi as therapy to treat cancer, viral infections, and certain dominant genetic disorders and other diseases that could be controlled by preventing selected genes from giving rise to illness-causing proteins(Lau et al, 2003).

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Accessed November 3, 2003

Appendix A: Clinical features of other laminopathies

Emery-Dreifuss Muscular Dystrophy, type 2 (OMIM 181350)

Myopathy intermediate between limb-girdle and scapuloperoneal atrophy; late onset cardiomyopathy; arrhythmia; early contractures; neck stiffness

Emery-Dreifuss Muscular Dystrophy, type 3 (OMIM 604929)

Spinal rigidity; contractures; diffuse muscle wasting; pelvic girdle muscle weakness; difficulty walking; muscular dystrophy

Limb-girdle Muscular Dystrophy, type 1B (OMIM 159001)

Atrioventricular conduction disturbances; bradycardia; dilated cardiomyopathy; sudden cardiac death; mild joint contractures; hip girdle muscle weakness; shoulder girdle muscle weakness; myopathic changes

Charcot-Marie-Tooth Disorder, type 2B1 (OMIM 605588)

Kyphoscoliosis; pes cavus; foot deformities; distal limb muscle weakness; distal limb muscle atrophy; 'steppage' gait; foot drop; distal sensory impairment; hyporeflexia; areflexia; axonal degeneration/regeneration on nerve biopsy; decreased number of myelinated fibers may be found

Dunnigan type of familial partial lipodystrophy (OMIM 151660)

Symmetirc lipoatrophy of trunks and limbs; fat sparing at the neck; buffalo hump area; tuberoeruptive xanthomata; acanthosis nigricans; lean muscular limbs; phlebectasia; rounded and full face

Mandibuloacral dysplasia (OMIM 248370)

Hypoplastic mandible; severe dental crowding; wide cranial sutures; acroosteolysis; stiff joints; hypoplastic clavicles; atrophy over head and feet; alopecia; short stature; hematemesis

Familial form of dilated cardiomyopathy (OMIM 115200)

Congestive cardiomyopathy; conduction defects; atrial fibrillation; ventricular arrhythmia; congestive heart failure; pericardial effusion; Adam-Stokes attacks

Subset of Werner's Syndrome (OMIM 277700)

Short stature; stocky trunk; prematurely aged face; cataracts; retinal degeneration; beaked nose; premature arteriosclerosis; osteoporosis; slender limbs; scleroderma-like skin; subcutaneous calcification; thin, sparse, gray hair; premature balding; diabetes mellitus; hypogonadism, Osteosarcoma and meningioma in about 10% of sufferers.

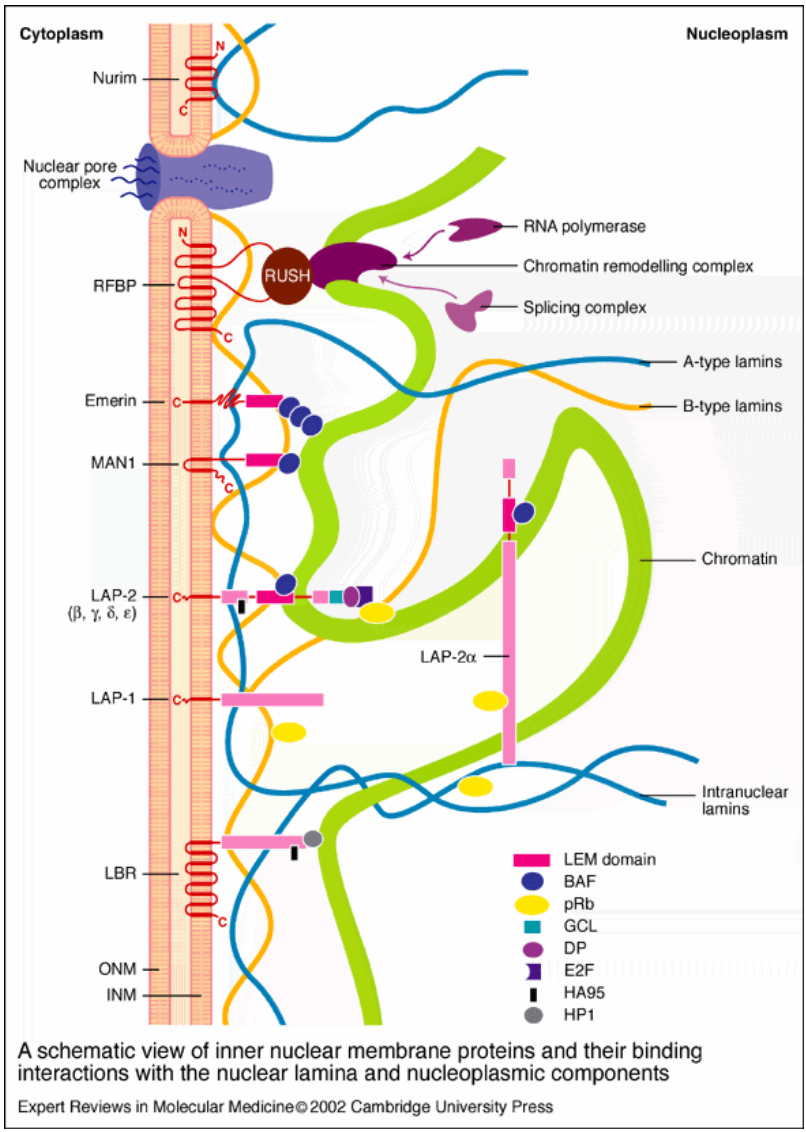

Figure 1: Nuclear Lamina. The inner nuclear membrane and the nuclear lamina are involved in several biological functions, including: regulation of the nuclear envelope shape and structure; disassembly and reassembly of the nuclear envelope during mitosis; providing anchoring sites for chromatin and affecting higher order chromatin organization; lamins are needed for the elongation phase of DNA replication; lamins are important for initializing and completing apoptosis and lamins interlink adjacent nuclear pore complexes.

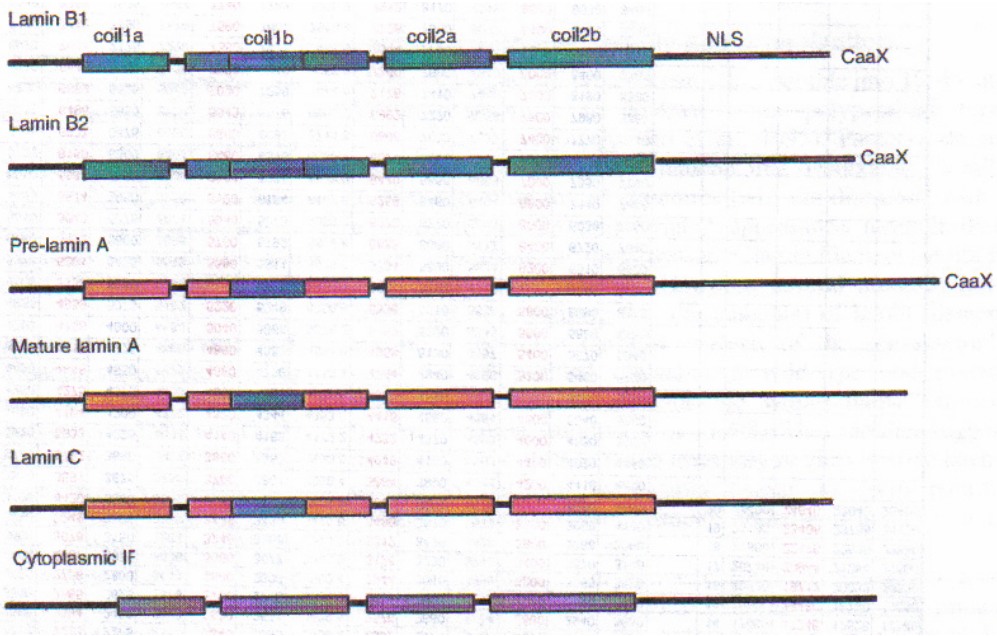

Figure 2: Lamins. Lamins B1 and B2 are expressed by LMNAB1 and LMNAB2 respectively. Lamin A and lamin C are the products of alternative splicing of the LMNA gene.

Photos of Children with Progeria


Rapid

Bots

Sean Munson[1] (Computer Science)

I. Introduction

Bots have become a commonly used attribute of the Internet. What is a bot, you may ask? A general definition of a bot can be considered to be a program that is meant to be left alone while in operation to interact with the Internet. The two types of bots are spiders and intelligent agents. Spiders , otherwise known as web crawlers are bots "that index and map specific web sites (Pallmann, page 4)" all across the Internet. In contrast, intelligent agents have some complexity in their designs, they make decisions without the aid of interaction and therefore are able to perform tasks. For instance, an intelligent agent could notify a person via email once an occurrence has taken place on the Internet.

Examples of spiders are those that are used for search engines. The search engine spider traverses the web in order to keep the databases of its search engine current and up to date. The search engine can be broken up nicely into two diagrams, one is called the "front end (Pallmann, page 4)" and the other is called the "back end (Pallmann, page 5)". The diagram for the "front end (Pallmann, page 4)" is shown in Figure 1.

On the front end a user types into a web browser the search terms that describe what he or she is looking for. That is then sent to the search engine's web server, which translates the search terms into a database query and sends the database query to a database of indexed web sites. The database of indexed web sites then sends records that match the database query back to the search engine web server. The search engine's web server then sends a results page back to the web browser for the user to read.

The other half of the search engine, the "back end (Pallmann, page 5)" is "the program that scours the Internet and updates the database (Pallmann, page 5)." The spider is vital to the search engine's existence, the "spider is just as essential as the search engine's front end (Pallmann, page 5)". If the spider did not exist then the information that is displayed on the web browser would quickly become old and of no need to the user of the search engine. The diagram of the search engine's "back end (Pallmann, page 5)" is shown in Figure 2.

A spider continuously searches through the Internet and as it does so, it indexes each site. Once a spider comes to a web site's home page, the spider must then go to

[1] Research performed under the direction of Dr. Adrian Ionescu (Computer Science)

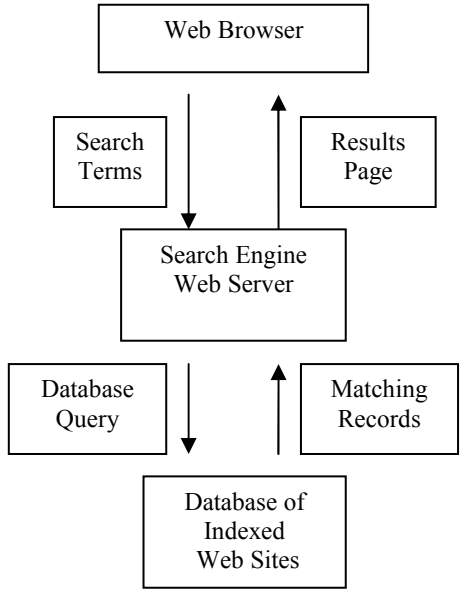

Figure 1: The Front End

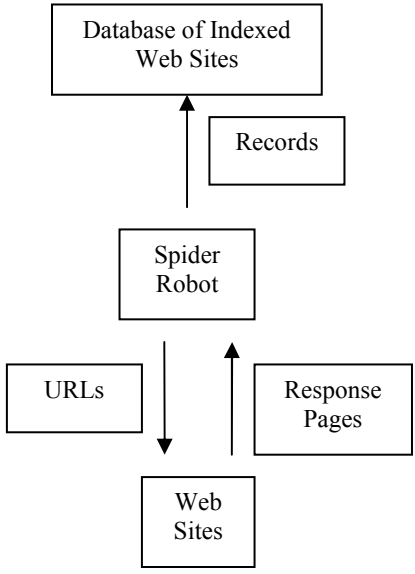

Figure 2: The Back End

every link that is on that web page. This is "a process called crawling (Pallmann, page 5)."

The other type of bot that can perform certain tasks is the intelligent agent. Intelligent agents can "work unattended (in the background) (Pallmann, page 5)." An example of an intelligent agent is a "news bot (Pallmann, page 5)." The diagram for a "news bot (Pallmann, page 5)" is shown in Figure 3.

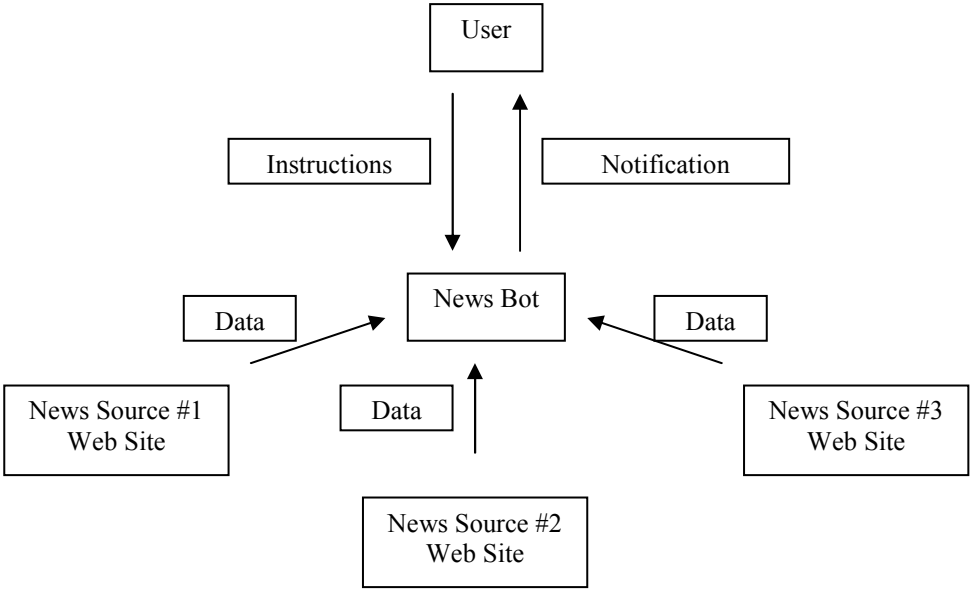

Figure 3: News Bot Example

The user gives the news bot instructions for it to perform. The news bot then goes out to the specific news source web sites to perform the instructions. Perhaps the news bot is waiting for certain events or news to take place and be displayed on the news source web site. Then the news bot may gathers the data that has been sent to it by the news source web site and then sends the user of the news bot some sort of notification. The notification could be an on screen display, it could be a sound that is played through the computers speakers, it could be an email, or it could be all three.

Spider and Intelligent Agent

The spider and the intelligent agent are two very different types of bots. The spider that is used by many search engines is "nearly invisible (Pallmann, page 6)." Contrastingly, because of the notification and instructions that are involved, spiders will cause the users to see intelligent agents. Another major difference is spiders usually run on servers and intelligent agents usually run on personal computers.

II. Programming Bots

When writing the programming code for a bot one needs to be aware of the fundamentals of bots. First of all, bots are meant to run on their own. And secondly, they are meant to run for a long period of time. Therefore, a programmer must include good code that reports significant errors when attention is needed. Also the programmer must write code that is efficient with the systems memory resources.

On the Internet there are web sites that do not want or like bot interaction. "Hammering (Pallmann, page 15)" is what web site management does not like about bots. Hammering is when a program accesses a web site many times in a row, which in turn can slow down the web sites performance. Most web sites want people to be able to access them and if a bot compromises this, then they have the option of participating in "The Internet Robot Exclusion Standard (Pallmann, page 15)." The Exclusion Standard incorporates a text file that has to be named robots.txt. The robots.txt file is specific to each web site but only if the web site has implemented its use.

For example, `cnn.com's robots.txt` file (see Appendix I) does not allow all bots to enter certain areas of its web site. When viewing a `robots.txt` file, the text following the '`#`' symbol is ignored or commented out. The '`*`' symbol represents any and all bots. The portions following '`Disallow`' are the areas of the web sites that are off limits for the bots that are specified by '`User-agent:`'. Then for more specific instructions pertaining to certain bots, instead of '`*`', the name of the bot is used.

Although bots have demonstrated their usefulness for an Internet user, this programmer was interested in testing their purported usefulness for the Internet. Therefore, the purpose of this project was to integrate robots for Internet use, and to test their efficiency for Internet users and their interaction with the Internet.

In this project there were two C++ source files that were added, `CRobotInternet` and `CRobotMail`. The `CRobotInternet` class can be used to retrieve information from the web. The data that can be extracted can be strings or integers or any other type of standard data type. `CRobotInternet` also has the capability to communicate with web servers. The other class, `CRobotMail` gives the

programmer general e-mail control and capabilities. More specifically, it "allows one to read all messages from the inbox, including new ones, and to send a message, with or without a file attachment (page 78)."

For this project, I designed my robot to go to a specified web site and notify the user when a certain string has been posted on the web site. The user must first enter the strings or phrases into the robots interface. Then the robot can search and wait on the web site to refresh. Once the web site has been refreshed with the appropriate string, the robot will then notify the user. Also the user must enter the e-mail address that he/she wants the robot to notify them at.

For this project, my first step was to get the Microsoft Developer Studio running. Then, I created a dialog based MFC application. The Microsoft Developer Studio makes creating the robot a lot simpler than if writing the program from scratch. The studio has the ability to generate code for the programmer. While creating the MFC application, I accepted all the default options. I named the MFC application `stockHeadline`. Then I added the following classes to the project: `CRobotInternet.h, CRobot.h, CRobotMail.h, CRobotInternet.cpp`, and `CRobotMail.cpp`. These files make creating the project a lot simpler by using their available functions. Next, at the top of the stockHeadline.cpp file, I added the following header files:

```
#include "CRobot.h"

#include "CRobotInternet.h"

#include "CRobotMail.h"
```

The above lines enable the project to access the functions that are in `CRobotMail` and `CRobotInternet.`

The next step is to open the main dialog resource and to add the necessary controls. There needs to be an e-mail address edit box, a phrases edit box, a display box for all the phrases that have been added to the list, and a group of buttons consisting of hide, close, add, and remove. The hide button minimizes the robots interface. The close button terminates the application. The add button adds a phrase to the list of phrases and the remove button removes the highlighted phrase.

To simplify the creation of the dialog box I added member variables to the member variables section of the class wizard. The class wizard is a tool in the Microsoft Developer Studio that breaks down and gives one more control of the classes used in projects. In the class wizard, I added variables and gave them appropriate Resource ID's. The following is what I added:

Variable Name	Resource ID
m_mail	IDC_MAIL
m_words	IDC_WORDS
m_words_ctl	IDC_WORDS

Next, I created a context menu. A context menu displays the options once a user clicks on the icon that is in the system tray. Normally one gets options when he or she right clicks on icons that are in the system tray. To create the context menu for the project I went to the ResourceView tab in Microsoft's Developer Studio. Once there I was able to create a new menu resource. Then I was able to define the menu items with the following resource IDs:

Caption	Resource ID
&Update	IDC_UPDATE
&Configure	IDC_CONFIGURE
E&xit	IDC_EXIT

The ampersand makes the character after it a shortcut for that command. If the menu is activated and the options are visible then pressing the letter x on the keyboard will cause the program to exit, the letter u on the keyboard will cause the program to update itself, and the letter c on the keyboard will cause to program to re-configure itself.

The icon in the system tray has the ability to change states. By pressing the ResourceView tab I was able to draw icons that will be displayed when the program takes a certain state. There are three different icons to be created:

Icon	Description of Icon
Idle	The letter 'I' that stands for Idle.
Active	The hourglass was used for this icon in order to represent that the program is busy.
Error	The letter 'X' was used to depict that something is wrong with the program.

Now the icon on the system tray nearly has the ability to display its state to its user. Next I defined the class variables and constants that I put in the stockHeadline.h file. The following are the function titles that I added:

```
void SetTray (int nWhichIcon, CString sStatus) ;

void LoadWords ( ) ;
```

```
void SaveWords ( ) ;

void ScanForStockHeadlines ( ) ;

void OnMenuUpdate ( ) ;

void OnMenuConfigure ( ) ;

void OnMenuExit ( ) ;
```

Each function is related to the buttons that were added to the dialog box or are related to the options after right clicking on the system tray icon except for 'ScanForStockHeadlines' which gives the program the ability to know when the appropriate phrase has been found.

Next I added the appropriate message handlers in the `IDC_WORDS` combo box, which can be found in the class wizard. The first message handler to be added is 'add'. One of the things to know is if there is any phrase to add to the list of phrases. The following checks to see if the entry line is blank:

```
if ( m_words = = "" )

{

MessageBox ( " Please enter a phrase. ",

"A phrase is required",

MB_EXCLAMATION ) ;

return ;

} // end if
```

In the if statement, '`m_words`' checks to see if the line is blank and if it is then an error message will be reported. The other message handlers that needed to be added were `OnRemove, OnInitdialog, OnOk,` and `OnTimer.` `OnRemove` is the code for the 'remove' button on the dialog box. Once the errors were checked for the word it could then be removed, the code for the removal of a phrase from the dialog box is as follows: `m_words_ctl.DeleteString( m_words_ctl.GetCurSel ( ) ;` The `OnInitdialog` message handler puts the intelligent agent in the Windows system tray. The `OnOk` message handler responds to the click of the hide button and respectively hides the intelligent agents interface. Lastly the `OnTimer`

message handler will execute the intelligent agent on a set interval. This function gives the agent the ability to make routine check-ups of the web.

Next I wrote the `scanForStockHeadline` function which retrieves the appropriate and requested web page and determines whether the web page has the correct and matching phrase. To determine if the web page is accessible the following line of code was used:

```
if ( internet.httpGet ( "//* web page address *// ",
sHTML, nResult, sErrMsg )) ;
```

After this function is complete the code for the intelligent agent is concretely finished. All that is left to do is use the finished application.

III. Conclusion

Robots have proven to be a highly useful tool for the internet. In conclusion, my project supports their usefulness in conjunction with the internet. For today's fast paced information needs, the applications of robots and the internet are seemingly endless. With the growth of the internet today, the programmer's job will be a challenging one to meet the demands for tools to manage, navigate and gather information from the web. As the use of the Internet increases, robots or even more efficient tools will need to be designed. Thus the programmer's challenge for the future will be to supply users with tools such as robots that are functional and user friendly to maximize their Internet time.

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Appendix A

The following is the robots.txt file taken from www.cnn.com on November 17, 2003.

```
# Robots, scram

User-agent: *
Disallow:   /cgi-bin
Disallow:   /TRANSCRIPTS
Disallow:   /development
Disallow:   /third
Disallow:   /beta
Disallow:   /java
Disallow:   /shockwave
Disallow:   /JOBS
Disallow:   /pr
Disallow:   /Interactive
Disallow:   /alt_index.html
Disallow:   /webmaster_logs
Disallow:   /newscenter
Disallow:   /virtual
Disallow:   /DIGEST
Disallow:   /QUICKNEWS
Disallow:   /SEARCH

User-agent:  Mozilla/3.01 (hotwired-test/0.1)
Disallow:   /cgi-bin
Disallow:   /TRANSCRIPTS
Disallow:   /development
Disallow:   /third
Disallow:   /beta
Disallow:   /java
Disallow:   /shockwave
Disallow:   /JOBS
Disallow:   /pr
Disallow:   /Interactive
Disallow:   /alt_index.html
Disallow:   /webmaster_logs
Disallow:   /newscenter
Disallow:   /virtual
Disallow:   /DIGEST
Disallow:   /QUICKNEWS
Disallow:   /SEARCH

User-agent:  Slurp
Disallow:   /cgi-bin
```

```
Disallow:   /TRANSCRIPTS
Disallow:   /development
Disallow:   /third
Disallow:   /beta
Disallow:   /java
Disallow:   /shockwave
Disallow:   /JOBS
Disallow:   /pr
Disallow:   /Interactive
Disallow:   /alt_index.html
Disallow:   /webmaster_logs
Disallow:   /newscenter
Disallow:   /virtual
Disallow:   /DIGEST
Disallow:   /QUICKNEWS
Disallow:   /SEARCH

User-agent:  Scooter
Disallow:   /cgi-bin
Disallow:   /TRANSCRIPTS
Disallow:   /development
Disallow:   /third
Disallow:   /beta
Disallow:   /java
Disallow:   /shockwave
Disallow:   /JOBS
Disallow:   /pr
Disallow:   /Interactive
Disallow:   /alt_index.html
Disallow:   /webmaster_logs
Disallow:   /newscenter
Disallow:   /virtual
Disallow:   /DIGEST
Disallow:   /QUICKNEWS
Disallow:   /SEARCH

User-agent: Ultraseek
Disallow:   /cgi-bin
#Disallow:  /TRANSCRIPTS
Disallow:   /development
Disallow:   /third
Disallow:   /beta
Disallow:   /java
Disallow:   /shockwave
Disallow:   /JOBS
Disallow:   /pr
```

```
Disallow:   /Interactive
Disallow:   /alt_index.html
Disallow:   /webmaster_logs
Disallow:   /newscenter
Disallow:   /virtual
Disallow:   /DIGEST
Disallow:   /QUICKNEWS
Disallow:   /SEARCH

User-agent: smallbear
Disallow:   /cgi-bin
Disallow:   /java
Disallow:   /images
Disallow:   /development
Disallow:   /third
Disallow:   /beta
Disallow:   /webmaster_logs
Disallow:   /virtual
Disallow:   /shockwave
Disallow:   /TRANSCRIPTS
Disallow:   /newscenter
Disallow:   /virtual
Disallow:   /DIGEST
Disallow:   /QUICKNEWS
Disallow:   /SEARCH
Disallow:   /alt_index.html

User-agent: GoogleBot
Disallow:   /cgi-bin
Disallow:   /java
Disallow:   /images
Disallow:   /development
Disallow:   /third
Disallow:   /beta
Disallow:   /webmaster_logs
Disallow:   /virtual
Disallow:   /shockwave
Disallow:   /TRANSCRIPTS
Disallow:   /newscenter
Disallow:   /virtual
Disallow:   /DIGEST
Disallow:   /QUICKNEWS
Disallow:   /SEARCH
Disallow:   /alt_index.html
```

Appendix B

The following is stockHeadline.cpp

```
// stockHeadline.cpp : Defines the class behaviors for the
application.
//

#include "stdafx.h"
#include "stockHeadline.h"
#include "stockHeadlineDlg.h"

#ifdef _DEBUG
#define new DEBUG_NEW
#undef THIS_FILE
static char THIS_FILE[] = __FILE__;
#endif

/////////////////////////////////////////////////////////////
/////////////////
// CStockHeadlineApp

BEGIN_MESSAGE_MAP(CStockHeadlineApp, CWinApp)
      //{{AFX_MSG_MAP(CStockHeadlineApp)
            // NOTE - the ClassWizard will add and remove
mapping macros here.
            //    DO NOT EDIT what you see in these blocks
of generated code!
      //}}AFX_MSG
      ON_COMMAND(ID_HELP, CWinApp::OnHelp)
END_MESSAGE_MAP()

/////////////////////////////////////////////////////////////
/////////////////
// CStockHeadlineApp construction

CStockHeadlineApp::CStockHeadlineApp()
{
      // TODO: add construction code here,
      // Place all significant initialization in
InitInstance
}

/////////////////////////////////////////////////////////////
/////////////////
```

```
// The one and only CStockHeadlineApp object

CStockHeadlineApp theApp;

/////////////////////////////////////////////////////////////
/////////////////
// CStockHeadlineApp initialization

BOOL CStockHeadlineApp::InitInstance()
{
      AfxEnableControlContainer();

      // Standard initialization
      // If you are not using these features and wish to
reduce the size
      //  of your final executable, you should remove from
the following
      //  the specific initialization routines you do not
need.

#ifdef _AFXDLL
      Enable3dControls();                  // Call this when
using MFC in a shared DLL
#else
      Enable3dControlsStatic();     // Call this when
linking to MFC statically
#endif

      CStockHeadlineDlg dlg;
      m_pMainWnd = &dlg;
      int nResponse = dlg.DoModal();
      if (nResponse == IDOK)
      {
            // TODO: Place code here to handle when the
dialog is
            //  dismissed with OK
      }
      else if (nResponse == IDCANCEL)
      {
            // TODO: Place code here to handle when the
dialog is
            //  dismissed with Cancel
      }

      // Since the dialog has been closed, return FALSE so
that we exit the
```

```
      //  application, rather than start the application's
message pump.
      return FALSE;
}
```

Section II:
The Social Sciences

Case Study of a Two-Year-Old Girl's Emotional Adjustment in a Private Day Care Setting Case

Claire Lippmann[1] (Psychology)

Being away from home and mommy for most of the day can be difficult when experienced for the first time. In accordance with this, Watamura, Donzella, Alwin, and Gunnary (2003) found that most infants and toddlers show signs of physiological stress when placed in day care. What seems troubling to most parents is the fact that young infants cannot express their feelings or thoughts through language. Instead, parents must be able to read the child's actions and behavior, which is not always easy. While spending time at Wagner College's Early Childhood Center, I chose to focus on one particular child's emotional adjustment to the day care: Samantha, two years old, the youngest of the 14 children in her class. Using Erik Erikson's and Jean Piaget's models of childhood development, as well as other authors discussing childhood research and theories, Samantha's observed behavior will be compared and consequently, the theories will be discussed and re-examined in a modern context. In addition, an emphasis will be brought on the quality verses the quantity of child care, demonstrating that the quality of a day care should matter most to parents who worry about their child's behavioral, psychological, and physiological well being when placed in such an environment.

One would think that the smaller the child the more difficult it is to adapt to the new child care environment. Samantha, however, adjusted particularly well to the day care center, especially in comparison to her slightly older classmates. As will be discussed more in depth later on, Samantha revealed no or few signs of separation anxiety, and showed an overall positive attitude towards her peers and teachers. She attended the Early Childhood Center five days a week, often arriving earlier than her classmates in the morning and staying late in the afternoons. Samantha developed strong bonds with her teachers, picking out her favorite ones and shadowing them for most of the day. During the first few weeks of school she engaged mostly in solitary play, staying away from the group play being engaged by her peers. Due to her age, towards the beginning of the school year, Samantha still required a lot of personal attention and affection. As time went by, however, Samantha grew slightly more independent, needing less time with teachers and spending more time playing with her peers. When ill she was very lethargic, tired and weary, and made her needs and wants known

[1] Research performed under the direction of Dr. Miles Groth (Psychology)

through the use of crying. Even though she was in poor health, and in no shape to participate actively in the day care's activities, her parents dropped her off nonetheless. Although during that time she never directly asked for her mother, I am almost certain that she would have felt sentimentally better if with her mother.

Before going on, it is necessary to talk a bit about the Early Childhood Center itself to establish a background. Lamb (1998) accumulated evidence suggesting that the quality of child care is important for children's development, furthermore stating that higher quality care is associated with increased development of cognitive and language skills. Luckily for Samantha and her classmates, the Early Childhood Center is a high quality, private child care center. Children coming from upper and middle socioeconomic backgrounds attend this facility. Its teachers' high devotion to each child is what makes it a quality place for children. The classroom consists of four teachers and 14 children. Of the four teachers, one has been teaching for 15 years, two are graduate assistants who plan on being teachers themselves, and one, myself, remains an undergraduate student. I believe this diverse aspect of the classroom brings an enormous advantage to the children, because they are looked after by people who truly care and love children, and whose motivation is not related to money (since the two assistants and I were not getting paid).

Interestingly enough, current findings have shown that extensive early experience in child care can be associated with behavior problems developed later on, but that the actual quality of care can balance the risks linked with the time spent in child care (Love, Harrison, Sagi-Schwartz, Ijzendoorn, Ross, Ungerer, Raikes, Brady-Smith, Boiler, Brooks-Gunn, Constantine, Kisker, Paulsell, & Chazan-Cohen, 2003). Children attending the Early Childhood Center obtain most of the personal attention they need, although as we shall see, this may not be enough on the part of the educator, whom even with the best intentions cannot bring the same kind of emotional feedback to the child as the mother. On the one hand, this can be explained by the fact that teachers must attend to several children's needs at once, which can sometimes be troublesome. On the other hand, it can also be explained by the well-known fact that teachers tend to stimulate children intellectually, whereas parents tend to be more sensitive to their child's emotional equilibrium. Furthermore, the National Institute of Child Health and Human Development (NICHD, 2003) reports that the more time spent in non-maternal care in the first four and one half years of life may be associated with more externalizing problems and conflicts in kindergarten. Above all, it is important to realize that quality of child care matters just as much as quantity of child care when it comes to children's social-emotional development (Love et al, 2003).

Samantha shows no negative behavior traits; she is cooperative, attentive, and even quite talkative when asked simple questions that she comprehends. Throughout the first few weeks of school, Samantha showed hardly any signs of separation anxiety, as though she somewhat understood that her mother was not abandoning her, but would soon return.

Agreeing with this, Selma H. Fraiberg (1959) writes, "In the second year we find that the infant can tolerate small amounts of discomfort and anxiety without being reduced to helplessness and panic". Samantha reduced her anxiety by clinging to and shadowing her teachers. This behavior reminds us of Margaret Mahler's concept of emotional refueling, except that instead of it occurring with the mother, Samantha obtained emotional refueling from the teachers she felt closest to and spent the most time with. Accordingly, Fraiberg (1959) reminds us that "Babies who do not suffer with excessive anxiety seem to develop their own methods of overcoming such fears".

Although Samantha, or any infant at this stage, does not fully grasp the concept of object permanence, she understands the concept when applied to people she knows such as her mother, brother, or favorite teacher. In other words, Samantha believes her mother 'disappears' but frequently returns. What is, in her view, a magical phenomenon, suffices for common, everyday situations in reducing anxiety. The same explanation fits the way Samantha talks about her brother. Every day Samantha and one of her parents drop off her brother (age 5) at the school bus stop. As a result, when asked about her brother, Samantha ensures me he is on the school bus - proving she does not realize her brother's school bus takes him to school, where he spends the day in a classroom rather than on the bus. This sort of dialogue shows some aspects of object permanence have been mastered by the child, but not yet to its full capacity.

When attempting to tap into a child's emotional life and psychosocial development, Erikson's model of childhood development appears among the most powerful and influential theories. It suggests a total of eight developmental stages, for which a crisis must be resolved in each stage in order for a person to develop psychosocially without hauling issues attached to the previous crisis. Erikson differed from his precursors by believing that "conflict arises not from the internal forces of the person, but rather the person's interaction with his or her environment" (Cross, 2001). In other words, Erikson viewed culture as an extremely important aspect of a person's development, therefore suggesting that depending on the child's developmental age, stages may occur earlier or later than stated in his model.

Erikson suggests that during the first year of a child's life the child must master the crisis of trust versus mistrust. In this stage parents play a primary role because "Food, shelter, and proactive efforts at comforting the infant lead it to hold a basic trust about the world" (Cross, 2001). Samantha's behavior shows that she has mastered her primary crisis, yet, she still has not been toilet trained, and therefore has not been subjected to the next crisis of autonomy versus shame and doubt. Another feature of this stage of development is the need to explore: the child experiences increased physical movement ability, and consequently feels the need to explore the world. This stage can be extremely tiring for parents and may lead them to discourage their child's explorations. Such a restraint may lead the child to develop self-doubt and shame. Once again, when following Erikson's model, Samantha does

not seem to have reached the toddler stage yet, however she seems to be on the route of a healthy psychosocial development, considering that she is only two years and three months old. In the day care she explores when she chooses to, and soils in a diaper, but does not exhibit feelings of doubt or shame, or any particular signs of autonomy that are usually applied to two and a half and three year olds. This is in accordance to her age and environment, taking in account the fact that her parents have not yet presented her the task of toilet training, one of the most fundamental aspects of Erikson's toddler phase.

When focusing on a child's cognitive development, Piaget's theory was also tremendously influential, as well as comprehensive. Piaget was interested in understanding how it is that children become rational, and wanted to understand not only how children think but also how they learn to think. Piaget's model of cognitive development worked similarly to Erikson's model of childhood development because both proposed the idea that one stage precedes another and consequently lead to an individual's well being and balance with his or her environment (Piaget, 1972). In Piaget's view, a two-year-old's development corresponds to the preoperational stage, whose major accomplishments are language and conceptual development. During this stage, children show signs of centration, "a tendency to focus on only one especially noticeable aspect of a complicated object or situation" (Sternberg, 2003). This tendency can be seen in Samantha's behavior when she works on puzzles, as she focuses on a single dimension: finding where the puzzle piece goes, sometimes without taking into account that the piece she holds belongs to a different puzzle than the one she is working on.

In addition, Piaget believed that the affective, social and cognitive aspects of behavior are inseparable, because neither one can function without the other. To explain this aspect of behavior, Piaget presents us with the idea of children's development of mental images, believing this developmental process "results in the formation of new affects in the form of lasting sympathies or antipathies toward other people" (Piaget, 1969). This view shows Samantha has reached the preoperational stage and has developed certain mental images about her environment, which in turn permit her to make new friendships, and as a result increase the richness of her surroundings. Piaget also stressed this stage as critical for language development, thus indirectly supporting Love and Ahnert's findings which suggest that children in day care are associated with higher cognitive and language scores at 24 and 36 months (2003,2003). Since in Piaget's view, language at this stage is set as a major goal, and that according to Love et al. (2003), children placed in child care are more prone to communication, both theories come together and seem to support one another. Interestingly enough, although Piaget focused primarily on children's cognitive development, he perceived children's private speech as irrelevant to children's cognitive development, not realizing the fundamental link existing between the two.

Lev S. Vygotsky, a well-known and outstanding Russian psychologist from the 1930's, was the first to realize the importance of children's private speech. Up to the 1960's Western psychologists and educators had been persuaded by Piaget that private speech played no constructive part in normal cognitive development. However, Vygotsky saw a strong connection between social experience, speech and learning, and furthermore believed that "early social communication precipitates private speech...social communication gives rise to all uniquely human, higher cognitive processes" (Berk, 1994). Even though the speech produced by children lacks structure, as well as vocabulary, they manage to state the aspects that seem the most confusing to them. As the tasks they take on become more common and well practiced, this private speech becomes internalized and remains with us throughout our entire lives. Berk (1994) suggests, along with many other researchers, that "self-guidance is the central function of private speech", and that "although children are often rebuked for talking to themselves out loud, doing so helps them control their behavior and master new skills." After all, if this aspect of childhood behavior is so universal, the need to recognize its purpose seems understandable. When observing Samantha individually, I asked her to complete a few cognitive operations, mainly consisting of recognizing certain objects from the classroom and matching them with drawings in a picture book. Whenever the object's presence was a bit harder to establish, she would start mumbling as though going through the motions in her head. The experience was repeated with puzzles, and in accordance with Vygotsky's findings, the more challenging the puzzles were, the more Samantha felt the need to express her thoughts out loud. In addition, her cooperative behavior may be explained by her frequent use of private speech, which serves the purpose of a regulator of frustration and anxiety.

Vygotsky also studied children's imagination and creativity, which he viewed as extremely central to a child's general development. He proposes, "Already at an early age, children have creative processes, which are expressed in their play" (1967). Moreover, Vygotsky (1967) believed "The child's play activity is not simply a recollection of past experience, but a creative reworking that combines impressions and constructs from the new realities addressing the needs of the child". This view is similar to Piaget's notion of the child inventing the world as he or she experiences it. From both these points of view, play has a fundamental role in a child's development, teaching children to simulate adult situations, and therefore teaching them little by little how to fit into society. Nevertheless, play can also be extremely creative; children continually invent games with rules evoking immense imagination and creativity.

The child care setting represents an encouraging play environment by providing excessive amounts of toys and activities the child can actively participate in. After all, "creativity is a necessary force of existence" (Vygotsky, 1967) and a quality child care offers a nearly perfect environment for children to "practice" life. Samantha plays an average of six

to seven different games (with no rules) and participates in five to six diverse classroom or individual activities per day. In other words, Samantha has the opportunity to grow up in a rich, socially interactive environment, where play is encouraged, and private speech is not looked down upon. She spends her day in a positive learning and caring environment where many aspects of her behavior can be enhanced and developed in a healthy manner. Perhaps Samantha's adjustment to the child care center may not have been so easy under different circumstances, or in a less privileged setting.

The Early Childhood Center accommodates children in a very welcoming fashion. It is a place where children are listened to, respected, valued as individuals, and due to the ratio of children per teacher, are given lots of personal attention to meet up to their emotional needs. However, not all children are so fortunate. Alice Miller attempts to bring to light the dangerous impacts and devastating effects childhood traumatization can have on adults, and consequently on society. From her discoveries she reaches the conclusion that human beings are not inherently destructive, that they are made that way because of ignorance, abuse, and neglect, and more so if no trustworthy figure can stand by their side. Miller's theory (1988) furthermore suggests that it is only by confronting the truth that has been avoided time and time again, that individuals can be saved from self-destruction, as well as blindly destroying others. Miller also stresses that children, whose vital needs are violated by being exploited, beaten, punished, manipulated, neglected, or taken advantage of, will be permanently harmed, and that since, for these children, it is forbidden to express feelings of anger or pain, "they are compelled to suppress their feelings, repress all memory of the trauma, and idealize those guilty of the abuse" (Miller, 1988). This dissociation from the original cause invites them to express their feelings of despair, anger, helplessness, and pain in destructive acts against others or against themselves. If these individuals turn out to be parents themselves, their children become scapegoats that the parents beat in order to escape the feelings coming from the way they were treated as children by their own parents. However, if these mistreated individuals manage to find emotional support and tenderness, instead of getting blamed for being at fault, the slate may be cleaned and the cycle broken (Miller, 1988). Miller (1988) writes, "People whose integrity has not been damaged in childhood, who were protected, respected, and treated with honesty by their parents, will be - both in their youth and adulthood - intelligent, responsive, empathetic, and highly sensitive."

Samantha's environment is highly conducive to the positive behavior and personal integrity Miller writes about. Like Miller, I strongly believe that "a child responds to and learns both tenderness and cruelty from the very beginning," that parents and educators must be compassionate and respectful towards children no matter what the situation at hand may be, because children learn to love from the love they receive.

Samantha's cooperative, responsive and intelligent behavior shows she is brought up in a supportive environment, and explains why her adjustment to child care occurred with such ease. Although opinions vary on the advantages and disadvantages of placing a child in child care, one thing remains certain, that the quality of the child care should be carefully examined in order to confirm the positive outcomes the school setting will have on the child. As we now know, childhood trauma is easy to come across but its effects are everlastingly distressing.

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A Reflection of the Little Steps Treatment Program

Josephine Vitale[1] (Psychology)

I. Introduction

Codependency, of alcoholism and addiction, in children is a disease in much of the same way that it is a disease for their parents. It is caused by an integration of biological, social, and psychological factors that have influenced the child. Codependency can originate at anytime during an individual's lifetime, especially during early childhood. Therefore, early intervention is crucial for the prevention of chemical dependency and further codependency (YMCA Pamphlet).

In a family with a substance-abusing parent, life is often unstable and chaotic. Children have an increased risk of physical and emotional illness. Some of the common problems that are experienced by these children include truancy, hyperactivity, substance abuse, aggressiveness, anxiety, and depression as well as may others (Gadol, 2000). Children from chemically dependent families share feelings of responsibility for their families, they feel they are "unlovable" and they have mixed emotions due to the unpredictability of their families. These children are at higher risk of developing dysfunctional behaviors including substance abuse problems. The goals of prevention for these children should include educating them about the disease of chemical dependency, understanding how chemical dependency has affected their family life, strategies to resist using alcohol and drugs and an opportunity to identify with a positive adult role model.

The Little Steps program occurs in a weekly group psychotherapy session, which is scheduled in repeatable 6-week cycles. The program is structured to meet the developmental needs of each child in the program. It is divided into 3 specific age groups. The Little Steps group is age appropriate for children between the ages of 4 and 9. This group includes story time, art therapy and a discussion. The activities allow the children to identify and express various feelings, including anger, sadness and fear, in a constructive manner. The Stepping Stones group is age-appropriate for children between the ages of 10 and 12. This group utilizes a mix of art activities, therapeutic games and discussion. Counselors in this group assist children in handling their increased awareness of chemical dependency. Clients, ages 12 through 14, take part in the Stepping Out group. A great deal of discussion and expressive activities are used to help the clients

[1] Research performed under the direction of Dr. Richard Brower (Psychology)

understand the disease of addiction and its impact on the lives of the adolescent. Additionally, the Little Steps program provides their clients with further services such as parent support groups, individual counseling, family conferences, and other extracurricular activities provided by the YMCA.

The Little Steps program promotes a number of goals for their clients. The primary goal is to have the children achieve an understanding that they are not the cause of their parents' problems with chemical dependency and that they do not have the ability to make them stop. It is also important for the children to understand that chemical dependency is a disease. As a result of the participation in the program, children learn how to identify feelings and express those feelings in positive way. Additionally, they learn how to speak honestly, be assertive, make decisions, make friends, and believe in themselves.

As a result of deciding to take part in this internship, my hypothesis is that after treatment in the Little Steps program for a time period of over 6 months, clients will be more aware of their feelings, better able to express them and have a better understanding of chemical dependency.

II. Methods

As I began my internship at the Little Steps Treatment Program I believed that I would be limited in the number of services I could take part in. My experience was, in fact, the opposite of my belief. During my 100 hours of field experience, I took part in every service that is provided by Little Steps. This includes the Little Steps, Stepping Stones, Parent, and family group as well as staff trainings, intakes and individual counseling.

In the Stepping Stones, the group included an average of 5 children, one head counselor and myself. Every session opened up by allowing any child to discuss some issue that they wanted to talk about. This often included the events that had occurred since the child was last in group. If no child was willing to discuss any events then some sort of icebreaker was used in order to allow the children to open up. Following this, there was a discussion on the topic that was planned for the day. Various topics included anger management, feelings, self-esteem and chemical dependency. The topic was usually accompanied by a related activity that utilized art or writing in order for the children to express themselves. When the activity was completed the children discussed what they had done and their feelings about it. Group was concluded by distributing an affirmation statement, which offered a positive message to each child. The average length of each group was 1 hour and 15 minutes. After all the children were gone, the head counselor and myself wrote clinical notes on each child in the group. These notes included my observation of how the child reacted to the activity and any significant concern the child might have suggested.

March 18, 2003: Self-esteem

The children first discussed what self-esteem is and some things that people may say to them that hurt their feelings. Every child was given a sheet of blank paper. They each had a turn to discuss hurtful things. Each time they mentioned something that was critical or hurtful they were required to tear a piece of the paper in order to symbolize how hurtful words can tear away at a person's self-esteem. Many children mentioned such things as being yelled at, being made fun of, and being ignored as things that have hurt their self-esteem. After each child had completed this section, the counselors demonstrated that the individual's self-esteem could be built up again after being hurt by using words that are positive. Each child took turns saying nice things to the other children in the group. When the child received a compliment they wrote it down on a torn piece of paper and they put the pieces back together on a mural. This was continued until each child's self-esteem was put back together. At the end of the group, the children discussed whether the "new" self-esteem was different than the original. The children gave many positive responses to this activity. They enjoyed doing it and they communicated about many of their feelings. One child mentioned that she would like to do this at home when she is feeling down and I encouraged each child to do this when they felt that their self-esteem had been hurt.

The Parent group is much less structured than the other groups in the Little Steps program. On the average, the group consists of 10 individuals, one lead counselor and myself. These individuals are either the substance abuser in recovery or the spouse of the substance abuser. At times, the group may also include grandparents, legal guardians, and foster parents. The group's activities vary on a week-to-week basis according to what the clients suggest to do. Most of the time one parent will begin discussing one of their concerns and the rest of the group contributes to the conversation with their inputs. The parents give each other advice and guidance while the counselors attempt to stir the path of the discussion. On occasion, the lead counselor or myself would choose a passage or quote to read and discuss, or we would choose an activity that may be in conjunction to what the children in the other groups are doing. Usually, the counselors try to discuss some aspect of what the children are doing in their group but they do not go into it in too much depth due to confidentiality issues. Some common topics that are discussed in Parent group include custody issues, addiction, divorce, and concern about their children. At the end of group, I normally wrote out a brief clinical note regarding the events of group.

March 13,2003: Discussion by Parent Group
Regarding the Activity of the Little Steps Group

This activity focused on imagining that the characters of Winnie the Pooh were part of a dysfunctional family with a member who was chemically dependent. They pretended that Winnie the Pooh was the individual with a problem with chemical dependency. The purpose of the activity was to identify the roles of each family member and to be able to identify the traits of each role. We told the parents that the role of Pooh was the alcoholic and Rabbit was the chief enabler. Christopher Robin was the perfect child, Tigger was the rebel, Piglet was the clown, and Eeyore was the lost child. The parents then tried to identify what role they played in their family of origin and what role they now play. They also tried to identify what role each of their children was playing. There was some controversy over this activity because some people disagreed that these roles should be classified only for families with chemical dependency. Many parents agreed that these roles could be played out in any normal family. The purpose of this activity was to have the parents be aware of the role that they have in the family and to be aware of their children's roles.

Individual counseling is the least structured of all the services provided by the Little Steps program. It is based entirely on the client's needs. The client and the counselor spend 45 minutes, one-on-one with each other once a week. They are able to build a trusting relationship so that the client feels comfortable enough to share whatever they would like to. Clients usually receive this service after requesting it and choosing a counselor that they feel comfortable with. I began individual counseling with J****, who is a 7 year old boy from the Little Steps groups, during the last few weeks of the internship. J**** 's mother suggested that he has a problem with managing his anger and he is confused about his father's chemical dependency and his role in the family. She suggested that I work on these issues with him during our time together. During my first session with the client, he was timid and nice. We tried to get better acquainted with each other so we discussed school, sports and his family. During the second session, we played a feelings game and J**** was able to open up more about himself and his feelings. For our next meetings, I plan on giving the client options on what he would like to do with our time together.

During my internship at the Little Steps program, I have completed approximately 7 intakes on my own. At the beginning, I familiarize the new clients to the Little Steps program. We discuss the rules, activities and goals of the treatment program as well as give them a brief tour of the vicinity. All paperwork, assessment, goal setting, and registration take place at this time.

III. Discussion

When I began the internship at the Little Steps program I knew that I wanted to get the maximum amount of clinical experience from the work I would be doing. I believe that in my 100 hours at Little Steps I have accomplished that goal. I have successfully learned the basic practice of conducting group therapy and individual counseling and I feel confident enough to perform these services on my own. I had become familiarized with the overall organization and goals of treatment agencies as well as the methods in which intakes and paperwork are completed. I have learned how to identify and cope with the needs of every individual client. The skills I have acquired from this internship can be applied to virtually any agency in which I chose to work for in the future. As a result of my dedication to this experience, the YMCA Counseling Service has offered me a position as counselor for the Little Steps program. I have decided to accept this offer so that I can further my experience in a clinical treatment agency.

The purpose of the Little Steps treatment program is to have the clients understand that they are not the cause of their parent's chemical dependency problem and to believe that they are important and special children. There is a great deal of focus on this goal. I believe that this is a slow process but the Little Steps program has been effective in accomplishing this. Little Steps has additionally been effective in teaching the client how to express their feelings, that chemical dependency is a disease and more importantly that they are children and should be having fun and making friends instead of worrying about their families.

One of the most important aspects of this program is that it allows the children to recognize that they are not alone in their family struggles. They learn that the other children in the program experience similar problems and feelings. This helps the children better deal with their family life. For 75 minutes each week, the children can come to group knowing that they will not be judged or criticized by their peers but instead they will find understanding and reassurance by the other children in the group. This allows the children to feel more positive about themselves.

An additional positive component of the Little Steps program is that it gives the children an opportunity to identify with a healthy adult role model, which is often their counselor. Many of the children may not have any other positive adult role models in their lives therefore; all counselors make an effort to be a positive part of every child's life. As a result, I have witnessed the strong relationships and bonds that have been formed between the counselor and the client. Most of the children in the Little Steps program do not participate out of their free will. They are forced to be there by the courts or their families. At times, this causes the clients to be resistant and hostile to counseling. This occurs more often in the older children and the young adolescents because they refuse to accept that have a problem. These individuals often feel responsible for their

families and refuse any help. As a result, the treatment program is less effective to those who object getting the treatment. It is difficult to get these individuals involved but once they do they realize the importance of sharing their concerns with the group.

On the other hand, I have witnessed first-hand how effective Little Steps could be if the children are open to this experience. I believe that the program is most effective when the children start participating at an early age. This allows them to experience the differences among each group and it allows the children to grow with every group they step into. Before a child can move up into another group they must first meet all the criteria of the Little Steps program followed by a graduation ceremony. This process is extremely effective because the children are publicly recognized for their accomplishments and they receive a great deal of satisfaction from it. This encourages the children to continue to participate and succeed in the next group.

The experience I have obtained from this internship will be memorable. I have learned a great deal from the counselors, supervisors, social workers and psychologists. Most of all, I have learned from the children who participate in the program. They have taught me more about life than any textbook ever could. This internship has reassured my belief that I want to make a career out of helping children and that I am more effective when working with children rather than any other population.

IV. References

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Appendix A: RFT Internship Log

Date	Hours	Program Description	Notes
12/19/2002	3	Little Steps	Christmas Party; included the entire family, food arts and craft. All of the children made ornaments and had a good time.
1/02/2003	3	Meeting & Intake	Discussion of the planned activities for the next seven week cycle.
1/07/2003	3	Stepping Stones	
1/09/2003	3	Parent Group	First parent group, extremely emotional and intense. Parents were understanding of each other's feelings.
1/14/2003	3	Stepping Stones	Mi*** was the only child to show up to group. We discussed her issues about possibly going into foster care.
1/17/2003	3	Parent	The group discussed whether alcoholism is genetic. Joe was concerned with why he fell into alcoholism and drug abuse but not the rest of his family.
1/21/2003	3	Stepping Stones	The activity consisted of inventing tools that may be useful in families with substance abuse problems.
1/23/2003	3	Parent	Parents interpreted a quote about responsibility.
1/28/2003	3	Stepping Stones	Children completed an acronym activity about their name.
1/30/2003	3	Parent	Parent discussed another quote and M*** admitted that she has a problem with control and perfection.
2/04/2003	3	Stepping Stones	We played the feelings game. D*** was upset about fighting with his brother.
2/11/2003	3	Stepping Stones: Family Group	Both C*** and D*** families were not getting along with each other.
2/13/2003	3	Parent: Family Group	Only a few people showed up to a group.
2/25/2003	4	Meeting & Stepping Stones	Discussed activities for the new cycle. The head Counselor for the Stepping Stones group was switched to Danny. D*** reacted very well to having a male counselor. He opened up a bit more in discussions.
2/27/2003	3	Parent	Counseled the group as my own

3/4/2003	3	Stepping Stones	The activity was a code letter in which the children wrote to a person that they were angry with. The children agreed that it was a good way to express anger without trouble.
3/6/2003	4	Parent & Intake	
3/11/2003	3	Stepping Stones	D**** was the only client to come to group. We played with the stress ball.
3/13/2003	3	Parent	We discussed the roles of Winnie the Pooh, which was the activity in Little Steps.
3/18/2003	4	Stepping Stones & Treatment Plan meeting	Self-esteem activity- Children discussed things that have hurt their self-esteem and what they could do to build it up. Staff was trained in completing treatment planning for their clients.
3/20/2003	4	Parent & Intake	Counseled the group on my own. Parents discussed issues about war and divorce.
3/25/2003	3	Stepping Stones	Anger activity- children discussed the difference between the negative and positive ways to express anger. They learned alternative ways to express anger.
3/28/2003	4	Parent & Intake	Counseled group on my own. We discussed legal issues regarding divorce.
4/3/2003	3	Parent	Spirituality was discussed.
4/8/2003	3	Stepping Stones: Family	Easter Egg game- each family spoke about their loves to become familiar to the rest of the group.
4/11/2003	4	Intake & Individual Counseling	First individual with 7 year old J*****. We tried to get to know each other and we discussed the confidentiality rule.
4/15/2003	3	Meeting	Case conference about the P**** family. We decided to locate outside resources to help the family.
4/17/2003	4	Intake & Individual	Client was much more comfortable in counseling. He opened up more about himself. We played a communication game.
4/22/2003	4	Meeting & Intake	At the meeting we discussed the activities for the next cycle.
4/29/2003	3	Stepping Stones	Ice Breaker: Collage
5/1/2003	4	Parent & Individual	Ice Breaker

Internship at Bay Ridge Preparatory School

Lindsay S. Schwartz[1] (Psychology)

I. Introduction

A learning disability (LD) is a neurological disorder that affects the brain's ability to receive, process, store and respond to information. The term learning disability is used to describe the seemingly unexplained difficulty a person of at least average intelligence has in acquiring basic academic skills. These skills are essential for success at school and work, and for coping with life in general. LD is not a single disorder. It is a term that refers to a group of disorders (National Research Council, 2001). Learning disabilities are different in everyone, however in most, they are usually lifelong conditions. Some individuals may have several overlapping learning disabilities, and still others have only one isolated learning problem that has little impact on their lives (NlNDS, 2003).

There was a time when educators did not know much about learning disabilities. They thought if a student was not doing well, they must not have been trying hard enough or they were not able to comprehend the material being taught; in other words, they were stupid. Nowadays, educators are taught how to deal with this population, whether it is in a special education classroom or in a "mainstream" classroom with support staff. Teachers learning how to deal with these students have made huge improvements on the students learning and self esteem. Special-education enrollment has grown 65 percent since the inception in the mid 1970s, to about 6.1 million students in the 1999-2000 school year. By far the biggest growth has been in the percentage of children classified as learning disabled -- which was 21 percent when the law was passed, but 46 percent in 1998 (Ladner, 2002).

II. Method

In trying to find out more about learning disabilities and the services provided, I conducted an interview with the Director of Support Services at Bay Ridge Preparatory School, Dr. Mayring, and asked her a few things about her position in the school. Dr. Mayring said, "I am involved in teaching people how to work with the remediation of

[1] Research performed under the direction of Dr. Richard Brower (Psychology)

learning disabled students. I have been the Director of Support Services for the past two years, and I train interns, and staff, on what strategies are effective in remediating deficits in reading, math, and general study skills." Dr. Mayring also told me that she finds the most important thing for beginning teachers to know is that they are role models for the students. The philosophy of Bay Ridge Prep is to treat the students with respect; this means that teachers do not yell at students or demean them. There is faith that given the correct structure, students will be motivated to learn and improve themselves (Mayring, personal communication, February 10, 2003).

After finding out about learning disabilities and visiting Bay Ridge Prep, I decided to conduct my internship there. But before anything could begin at the school, I had to attend an orientation to affiliate myself with the school. This entailed learning about the school and their rules of conduct. Mainly I spent the day observing different classes in the lower school to try to decide where I would most benefit the school and my educational experience. It was decided that I should mainly observe the learning disabled classes while also spending some time with the mainstream classes to observe some of the differences. This was a very valuable day; I was shown many different classes and got to see how different this school really is. Bay Ridge Prep is a small private school with a very different philosophy. The main thing that I noticed right away at this school was the fact that the teachers are very patient, polite, and respectful of the students. Showing the students respect makes them feel excellent and important. There is no yelling or embarrassment of the students, if they do not understand something, it is explained again, they are not made to feel inadequate. For these reasons and many others, this school is very unique and special in my opinion. Below is a list of my hours and of my journal entries for each given day.

Table 1: Psychology Internship Schedule

Monday	**Wednesday**
2nd Period: Language Arts (LD students)	2nd Period: Kindergarten
3rd Period: Language Arts (LD students)	3rd Period: Speech Group (LD)
4th Period: Speech Group (LD students)	4th Period: 2nd/3rd Grade
5th Period: 2nd/3rd Grade	5th Period: Kindergarten
6th Period: 2nd/3rd Grade	6th Period: 2nd/3rd Grade

III. Results

January 13, 2003

2nd Period

Today is my first day doing my psychology internship. I will be working with different populations within a school. This period (2nd), I am working with learning disabled children who are getting help with their speech. The speech teacher takes a group of children during scheduled class time throughout the day.

3rd Period

This group is a language arts group. They are working on plurals. They find this task difficult. They are adding "S" and "ES" to the ends of different words to make them plural.

4th Period

Another speech group enters the room. They find it interesting that I am here and many questions arise. I explained politely to the students that I was doing what is called an internship to further my education. This group was a little more difficult. The group consisted of all boys from about age 12 to 14. Two of the boys were in all the same classes and had a hard time focusing on the work; they were laughing almost the entire class. There was only one boy who was quiet and wanted to get some work done so the teacher had him sit in another room where it was quiet and he could concentrate. I found it a shame that the boy who wanted to do the work was the one that had to leave the room. The boys in this class were Zack, Jamere, Sage, Sekou, and John; for further reference.

6th Period

This is when the children eat lunch. My supervisor asked me to work with one of the kids, Jack who was having social difficulty in his classes. He just wanted me to get to know the boy and talk with him, be a mentor. It has been found that this will work with a child like Jack, if he has a mentor and he is having difficulty in his class, he knows he can come out for a few minutes and talk about what it is that is bothering him.

January 22, 2003

Today I spent the day with the youngest group in the school, the pre-k. This group was very interesting; they had a very different way of playing and looking at things. They ask many questions, most of which start with why. They have to know everything. You can actually see them learning as they ask questions. They are putting it all together. They like to play

with you as well as playing alone. One of the girls wanted me to play with her favorite doll house; then later on she was content going into a separate area and playing alone, while I supervised from afar. This group was enjoyable, mostly I think because they are so carefree, they don't have any worries, they just want to know why things happen.

January 27, 2003

Today during language arts I worked with a boy named Matthew. Matthew is in a special education class and has difficulty with certain tasks. One main task that he has trouble with is copying notes from the board. He needs individualized attention while attempting this task to make sure he gets it done. If there is not someone sitting near him to make sure he does it, he won't. This particular boy is better at writing sentences that are dictated to him rather than copying them from the board.

4th Period

During this period I sat in on the 2nd and 3rd grade. Ms. Selkowe, the teacher played a game of math bingo with the kids. There were three children playing. Michael was winning. A new girl from the class had finished up what she was working on and asked if she could join the game. When she did, she started winning and Michael had a very hard time accepting that. He felt that it was the new player's fault that he was not winning anymore, which was not the case because it was a game of bingo and it is really a game of luck, if you have the correct piece on your board then you win. Michael started crying and he did not want to play anymore. This happened towards the end of the period and nothing was really resolved because of that. By the time the next period came about, Michael was feeling better and started settling in for the next class.

5th Period

This class was the second and third grade literature. Ms. Selkowe started reading and then took volunteers to read aloud. It took a few minutes for the kids to get settled and start reading. There are two teachers in this class, they walk around and help the kids when needed. There are many different levels in this class and it makes it very difficult to teach. One of the girls in the class cannot read very well and needs constant reminding of where the class is up to in the book. There is criticism from the kids towards each other as soon as they make a mistake. They don't really correct each other nicely, they get very upset and most times, the one getting criticized gets even more upset. This class works on a point system, in which they get points for settling in well and transitioning well from one class to the next.

6th Period

During this period, I sat with the kindergarten, first, second, third, and fourth grade classes while they had lunch. I observed the social dynamics of the children and how they interacted with each other. They each have their own spots in the cafeteria to eat. Some interact with each other very nicely and as expected others have difficulty and are still learning how to make and keep friends.

January 29, 2003

The first hour of my day was spent with the kindergarten and first grade class. They went on a treasure hunt to practice their map making skills. They each drew their own maps of the classroom and hid a penny somewhere for another student to find. The kids had trouble understanding that if someone found their map it was a good thing. They wanted to be secretive and not have anyone find their penny. The teacher, Ms. Small was trying to explain that it was a good thing and that if someone found their penny it meant they were good map makers and they succeeded at their task. The only way Ms. Small could convince the kids that it was a good idea that the others find their pennies was when she told them they would get a prize if their pennies were found. At the end of the exercise, Ms. Small asked for comments from each child stating what they thought of the treasure hunt. She wanted to know if it was easy or hard to find the penny and if the map was detailed enough. Of course some said easy and still others said it was hard.

The next class I observed was the second/third grade class. It was time for math and they were practicing word problems. An example of a word problem they were working on was, "Jenny bought a hat for $12.00 and a pennant for $3.00. She paid with a $20.00 bill, how much change did she get back?" It was interesting to see the process that the children go through in order to reach their answers. One of the children in this particular class is advanced, but not so much that he is ready to move up to the fourth grade class, so one of the teachers in the room works with him individually during math class. What I have noticed today is that it is very hard to get and hold the attention of the whole class. Later in the day, it was time to read aloud. Ms. Selkowe read a story and the kids had to pay attention so that they could answer any questions that came about. Some of the kids have a hard time sitting in their seats, especially when they cannot speak. One girl in particular is always jumping up out of her seat and the teachers constantly have to tell her to sit and to raise her hand if she would like to speak.

February 3, 2003

Second and third period this morning I sat in on a learning disabled language arts class. They were working on idioms, auditory processing, grammar, and the book *20,000 Leagues Under the Sea*. This class does pretty well in terms of behavior. Some of the children have trouble raising their hands and being nice to each other. Many of these children have trouble reading and writing. Ms. Swoboda, the teacher made up a contest for the kids to try and make it more enjoyable for them. The children had to read a page in their books, there could be two winners. One of the winners would be for the person who reads the fastest and the other would be for the person with the least errors. The children then had to do a fill in the blank worksheet which they had trouble with. The words were in a word bank and they still could not figure out which word goes with which sentence.

Next was math with the second and third grade class. Settling in is usually hard for this class. It takes them a few minutes, Ms. Selkowe counts down in order for them to realize she is waiting for them to settle down and start to work. Some of the kids get very upset because they don't think they will be ready by the time the countdown is over. Once the count is over, the kids settle into the topic and the class continues. The topic for today was subtracting money. In this exercise, the kids each got a $5.00 bill to buy something from a make-believe store, and they had to find out what their correct change would be. The kids had trouble realizing that this was a fake toy store; they said they did not want anything that the store had to offer. This stopped them from doing the exercise for a while and it delayed the class. I am wondering how you do work with some kids and get the others to do the assignment quietly?

Later on I observed an evaluation. This evaluation was with a first grader named Erin. There were two tests used, one was the CELF 3, which is the Clinical Evaluation of Language Fundamentals. This test is for expressive and receptive language skills. The other test is called the LACT, which tests more for auditory discrimination. A pre-check was being done to see if Erin had the skills yet to pick out similarities and differences. The LACT used blocks, she had to put out different colored blocks or the same colored blocks based on whether the sounds, letters, or names are the same or different. Erin had more trouble putting sounds together rather than naming them separately. She was able to discriminate the sound for I, she was also able to put that together with P so that she got IP, she could not however, switch the letters around to make the sound PI. When she was asked to do this, she added another color block to represent another sound instead of just switching the two she had around. I also observed her listen to a story and try to ask questions related to the story. She did much better at this task than the previous one. She was able to answer all the questions and relate the story back to the tester. When Erin was finished with these tasks she was able

to play an educational game on the computer. It is called "Earobics" and it teaches listening skills for speech and language development and academic success. There are different games within this program, some of which include a rhyming game and a listening game where you match sounds with pictures and matching words with their pictures as well.

I asked my supervisor what this all meant for Erin and he said that she is a candidate for speech and language therapy and should be tested further. She is slightly behind for her age and speech would improve her marks greatly.

February 5, 2003

When I got in this morning one of my first jobs was to go over to the high school division of this school and pick up one of the 5th graders who is advanced for his age and is taking high school math. The reason I went to pick him up is because he is only in 5th grade and cannot walk there himself however, he is advanced enough to sit in on the high school math class. They wanted someone who would have a meaningful conversation with him on the way back. We spoke about what he liked and what he disliked and had a very nice walk back to the school.

Next, I sat in on the learning disabled class while they had speech. Matthew, Sam, and Sylvia are in this class. Matthew and Sylvia have learning disabilities and social problems as well as Sam, however; Sam is the only one of the group that had brain trauma when he was a child. They are nonetheless, very nice children and a very nice group together. This period they worked on idioms and they were read stories or situations, in which they had to tell if the person acted appropriately or inappropriately. This sounded very basic to me when I first heard what they were going to do. I was surprised to find out they had trouble with this exercise. They had difficulty with the work but mostly they had trouble staying on topic. They would start telling stories about themselves and situations that they have been in, but the stories were not on topic even though they thought they were.

The next part of my day, was spent with the 2nd/3rd grade doing math. This class time was to be taken up with a review for their test coming up on Friday. I have found while observing this group that the kids have trouble interacting when one is doing something they don't like. Michael, who tends to have a lot of social difficulties, was kicking the chair. Instead of asking him to stop, Melissa and Paige yelled his name and expected him to stop and of course he did not stop. I tried asking the girls if they thought they could ask him a little bit nicer and they tried and he stopped. Michael is very extreme about things. Before the incident with the chair, he was bringing his books to the other room for their lesson and the

books almost fell. Instead of asking for help or putting them down and getting a better grip on them, he panicked and yelled, "Somebody help me, help me, my book is falling, help!"

During 5th period, I went to visit the first grade class. I have found that they have trouble settling in and starting their subject, I attribute this to them being so young, but I have also found that the older kids have trouble with this as well. I have also noticed, at this age you cannot give them a choice about what they would like to do. If you do this, there is always someone who doesn't want to do the activity that the rest do and they cannot "bounce back" and join the activity even if it's not really what they want to do. The older kids have an easier time adjusting to a situation like this. At the first grade level the children are very much interested in what they want to do, it is very much centered on "me".

February 10,2003

This morning was spent with the learning disabled class. They were reading the book *20,000 Leagues Under the Sea*. Ms. Swoboda had the students practice their reading skills aloud; each child took a turn, some having more trouble than others. There were fewer children in the class today and it was noticeably more peaceful. Ms. Swoboda asks the kids many questions about things that they have just read to make sure they comprehend what they have read. After reading, some kids went into the computer room and others were to practice their fluency builder skills. This means that the children have a page full of words that are very similar and they have to read them as fast as they can while getting the words correct. They have one minute to do this and the score is based on how many words were read and how many errors there were. Ms. Swoboda let me do the fluency builders with two of the children for experience. I did this with Matthew and John. John had trouble with the sh sounds, he would say s instead. For example, if the word was brash, he would say brass. Matthew did well, he got a few errors but I think that was because he was trying to rush through it and read fast so that his score would be better.

The next class that came into the classroom included Zack, Sage, John, Michael (who was not supposed to be in the class but Ms. Swoboda let him stay), and Sekou. This group was very hard to control and keep on topic. They are five middle school boys who spend the entire day together and they laugh and joke the whole time instead of doing the required work. The class worked on homophones and strategies to help them remember things in class. They laugh the whole time they are in class. I think they need ways to help them control themselves. Ms. Swoboda does a token economy with the kids in which she gives them "speech bucks" for doing well in the class and when they save enough money, she treats them to lunch. This is a great idea and it helps to focus the kids however, she does not

do this consistently and so the kids are not consistently behaved. After these classes, I spent time talking with Ms. Swoboda about the different kids and their disorders and/or disabilities.

February 12, 2003

This morning I spent time with the first grade class while they were doing mapping. The end goal of this project is to map out the path from their homes to the school. The first part of this was to draw their homes and their schools and they will fill in the rest later. One of the girls was talking to another and said, "My mother talks about penis at home." I was wondering how the teacher was going to handle this. She just told her that she should talk about that at home with her mom but that it was not really school conversation. I thought this was a great way to handle the problem because the girl did not walk away feeling badly or embarrassed.

Next, I spent time with the learning disabled class while they had speech. Sam and Sylvia were in this group. They were working on opposites and it was very interesting to see what they had trouble with and what they found very easy. Sam had a hard time with opposites like everyone and no one while he found words like guilty and innocent very easy and he knew them right away. This group works well together, they are not hard to control and they pay attention most of the class. The hardest part was to keep Sam from rushing, all he wanted to do was skip ahead and finish right away. Everything in the class was going well and then out of nowhere, Sam started saying things like he doesn't belong on this planet and how odd he is. He was telling us how many scars he had and all about his go - cart accident which he has brain damage from. He did say however, that God gave him a gift of singing. Sylvia then chimed in and said that God gave her a gift also; he gave her the gift to see into the future. Sam proceeded to say that they should prove their talents, he would sing if she would tell him something that was going to happen in the future. She thought for a moment and said, "Sometimes I need to have the vision in a dream, I cannot just do it." So Sam sang anyway.

The next class was spent with the second and third grade class. They are working on multiplication. At the beginning of class they get points for transitioning well into their next class. One girl did not get ready fast enough so she did not get the points and she was very upset about it. She did not get in trouble for not being ready; she just didn't get any points. She started crying and was very upset. She also would not go to math until the teacher finally came in and got her. After math was over, the class played a game of jeopardy to review for their social studies test on China.

The next class started with conflict resolution. What the teacher has them do is try to resolve their conflicts by telling each other what they felt bad about and what they can do to change that feeling. This time, Christine felt that Erin and Stacy did not want her to play in their game during gym. It took quite a few minutes of class time to try to resolve this and in the end, Christine still felt badly. When reading finally got started, they were working on nouns. The exercise for this was to look at a picture and try to name all the nouns they could find. They first did this as a group to make sure the exercise was understood and then they each got their own different picture and had to try to name the nouns themselves.

February 19,2003

Today I spent the morning with the first grade class while they had their writers' workshop. This is the time of day when they learn their sounds and letters and then practice writing them. It was interesting to see how Ms. Small went about teaching them this technique. She begins with the letters on a picture card. She has each of them say the letter on the card, say what the picture on the card is, and say the sound the letter makes. Then she gives them a worksheet to work on their own with the new letter that they have learned that day. Today they had a picture of a rainbow on their worksheet because they learned the letter "R". Then they had to circle everything on the page that starts with the letter "R". After they worked really hard, it was snack time.

The next group I spent time with was the speech group which included Sam, Sylvia, and Matthew. This period the kids worked on categories and why it is important to put things into categories in the first place. It always amazes me, what I find to be a simple task they have so much trouble with. Their answers are so logical to them, but they are usually not correct. For example, when asked why door and umbrella are similar or are put into the same category, Sam replied, "Because when it rains, you need to put the umbrella in the door when you are done with it", instead of the correct answer which was that they both open and close.

Next the second and third grade continued with their multiplication. Ms. Selkowe uses the idea of putting things into groups to teach them this skill. It seems to be working rather well. They got to color ice cream cones today. It was explained to them that each time they learn a new multiplication table they will get to add another scoop to their ice cream and write on it which table they learned. The kids seemed very motivated to do this and quickly began to color. I learned today that one of the children in Ms. Selkowe's class has a behavioral report that must be filled out each day and is checked by his mother and a psychologist that works with him and the school to improve his behavior. The report must be filled out each day and it has sections on it labeled "Got ready and packed his bag with no more than 2 warnings"

and “Participated and paid attention without being reminded". It is always interesting to find out what difficulties certain kids have and what you can do to help make them have a better school experience.

After the math class with the second and third grade I went back to the first grade to help out during their reading time. It is a great experience to try and help a child who is first learning how to read. I got to sit with some of the kids and read with them, I read some of the page and then they read the rest. Some of the kids have more trouble than others, but they are all learning well. They are all good kids and are well behaved for their age.

February 24, 2003

This morning I observed the second and third grade class. During this period they were writing poems about anything they wanted. They were shape poems in which they picked any shape they wanted like a sport, heart, music, etc. and wrote about it. One of the boys, Michael, had a fit about not wanting to go to school anymore. He thinks he has learned enough (after only second grade) and he doesn't need to go anymore. He refuses to do work and says he is bored. At this point I have seen the teachers cater to him, they talk to him and it doesn't resolve anything so they let him sit for a while but he doesn't get any work done this way. I am curious to see how they will try to resolve this issue.

During the next period I was with the speech and language group. This group worked on fluency builder, spelling, grammar, nouns, verbs, etc. The kids have a hard time interacting with each other and sharing things, they do not help each other often. They saw me writing and asked what I was doing. One of the kids asked if I was writing about how bad they are. I, of course, said no.

The next period was a review of the 2 and 3 times tables. Then they moved on to the 5 times tables. Each child got a chance to go up to the board and solve a problem. They were doing very well. Ms. Selkowe told them there was going to be a surprise. Once everyone learned and memorized their 6 times tables they were going to have an ice cream party. Michael was still having trouble. He now said that he doesn't want to do anything and he doesn't want to be near anyone. He now doesn't like the boy next to him because he considers him to be a gambler. When the teacher asked him if he knew what a gambler was he said it is someone who does work for prizes. This class works on a point system where if they do well then they get points and after a certain number of points they get prizes. Therefore, he considers this boy a gambler because he follows this system. He doesn't want anything to do with the point system anymore and he says he will bring it down and whoever created it will go down too.

After this I spent time with some of the older kids in 6th grade. They had math. They were working on integers, specifically adding integers. They went over the homework and then went over some new material on adding integers. The teacher gave them all rules for doing this and then they went over some problems together so they would understand their homework.

February 26, 2003

It took the kids a very long time to get settled today. They all were hungry and had to have snack, then when they were going to get started they all needed to use the bathroom. They did not get started until about 25 minutes into the period. When they eventually got started, they practiced reading and singing a song they are going to be presenting to the other classes. Then they learned what the difference is between real and make-believe. One of the students Ben had a hard time sitting still, this went on for most of the class. He kept going ahead of the other students and distracting them while they were singing. Eventually, Ms. Small asked him to go read at the table by himself because he was distracting everyone. He was calm when he came back to the group.

Next, I spent time with the learning disabled speech and language group. They worked on comparisons. Things like schools have desks and churches have pews, teachers have students and dentists have patients. A big challenge for this group aside from the actual work is staying on topic, they like to talk about themselves a lot and tell stories. They all did well with this exercise and got a lot of "speech bucks". The second and third grade was working on math when I got there. Someone spilled their drink and it was handled extremely well. Typically, a teacher would yell and flip out in a situation like this; Ms. Selkowe on the other hand handled it really well. She told the girl where the paper towels were so she could clean it up. Some of the other girls came to help and it was forgotten instead of being blown out of proportion. They covered the 1 times tables and the 0 times tables. The first grade class was working with watercolors. They spent the period doing paintings for their upcoming show, *Down by the Bay*.

Then I was able to observe a first grader being tested individually. Her first task was to tell which words and pictures were the same and which are different. Then she was presented with a word, for example pig. She was read a list of four other words and had to tell which word ended like pig. In this case, pig matched with dog because they had the same ending sound. The tester had to teach the girl how to do this which took a while and then she had her try it on her own. The girl had a hard time with this; she kept saying the first sound instead of

the last. So if the word was pig and the choices were house, pen, dog, and ran, she would say the answer was pen because it started with p. She was not grasping that the word should end the same way, not start the same way.

March 10, 2003

Since it is a Monday morning, the speech and language group is having a difficult time settling into their assignments. Ms. Swoboda is talking over them. She is being forced to speak so loudly because they are very noisy. Since the boys were not listening they did not know what to do. Ms. Swoboda had to explain the directions over again to them while everyone else was working. The others already knew the directions because they were listening when she explained them the first time. Some of them seem to have a lot of trouble with this exercise. It was putting a verb into a list of three words. For example, Popcorn, Balloons, and Firecrackers all Pop. They could not grasp this.

Next they worked on plurals and apostrophes. Example, the crab's legs or the bricks were stacked. They needed to know where the apostrophe goes or if it was just plural and all you needed to do was add an s. They also had a lot of trouble with this. They need more practice before the midterm.

Next, there was a speech group which included John, Zack, Sekou, and Sage. The exercise they were working on was reading paragraphs and answering specific questions. This group is still very hard to control. One boy had to be walked back to class because he was not trusted to get their on his own. After they worked on this speech exercise, they reviewed for an upcoming science test. The group was still having trouble. When the one boy left who was acting like the class clown another took over his position. He had a lot of trouble sitting still and paying attention to the assignment. He touches things and grabs things out of peoples' hands. Ms. Swoboda had to talk to him after class and explain to him why he shouldn't do that. He actually didn't understand why what he did was wrong. She had to explain it to him. She asked him if he knew he shouldn't grab things out of people's hands and he said that he wouldn't mind if it was done to him. She said, “Really, you wouldn't mind if someone grabbed a pen out of your hands?” He said if it was a friend he wouldn't mind but if it was someone he didn't like, he would just punch them in the face. I thought that was an interesting comment, not one you hear everyday.

Next, the second and third grade had math. Everyone was out of their seats and not very settled. They were, however, getting their work done. Then they worked on presenting their last few projects for black history month. They are still very unsettled. The kids presented

well and most asked intelligent questions. One of the girls is very quiet and had a hard time presenting in front of the class. Ms. Selkowe helped her by asking her questions that prompted her to speak.

March 12, 2003

The first grade class was working on math this morning. They were making change with coins. They were trying to see how many ways they could make 10 cents using pennies, nickels, and dimes. Stacy, who is young for the group had a hard time with this exercise. All she was doing was coloring on the paper they were supposed to be writing their answers on. Ms. Small tried to help her make 10 cents. She wanted her to find at least one way to do this before the period was over. It didn't happen. Matthew, who is Stacy's age, is advanced. He didn't have any difficulty doing this exercise. In fact, he did a better job than most of the kids in the class, even the ones that are older than he is. Ms. Small left for a minute to use the bathroom and it was interesting to try and manage the class on my own. It was snack time so it wasn't really a structured activity and they were all out of their seats. I tried to get them back in their seats because that's where Ms. Small wants them when they are eating. One of the girls started saying she doesn't like girls; only boys. She told this to another girl, Christine. Christine of course got upset because she was basically saying she didn't like her, because she is a girl. She asked how can you not like girls? The reply was I only like boys, so Christine said fine then we will just leave (and she named all the girls in the room) and leave you with all the boys. The interesting part about this is that the girl who said she doesn't like girls has a mother who is a lesbian. Even at this young age, she is picking up on the differences between the sexes. I think the fact that she said she doesn't like girls has to do with her mother(s).

During the second/third grade math class they were working on word problems. They started with the homework from the night before and moved on to today's work. They started a worksheet together and the kids worked in groups of two to figure out the answers to the rest of the sheet. This group lesson went well but it takes a lot to get the class quiet and have them pay attention. The ones who know the answer call out and the others get upset because they took their turn. The ones who called out get upset because the teacher doesn't call on them; they don't realize that it's someone else's turn. When the kids have to work alone the classroom is very loud and not much work gets done. The kids only work when a teacher comes over and helps them. Most of them say they need help and this is because they weren't listening when the teacher did the first two problems with them.

The next period all the grades from kindergarten through fourth grade got together to hear the poems that the second and third grade wrote. They called it a publishing party and had cookies and juice. They read their poems and the people that they read them to had to write comments about the poem. This went very well. It was coordinated between the classes, everyone had fun, and their was nothing but positive comments being made which made the students feel great.

March 26, 2003

I spent first period with the kindergarten/first grade class. One of the kids showed a scrap book from his trip on spring break. This was my first experience with this class by myself. It was interesting. I had to think creatively to get them to participate in what I was doing. First, I took out a book that the teacher gave me to read to them. They are used to reading with her so they knew what to do. Before reading the story, she has them look at the cover and say what they think the book is about. Then she goes through the book without reading it, she just looks at the pictures and asks them what they think. Then we actually read and look at the pictures. I did all of this but when I was done I didn't know what to do with them. Luckily, they said can we draw pictures about the book? So, I said sure. That took up most of the time. I had to stall a little until the teacher came back because they said they were done and I didn't really have anything else for them to do. I had them trade markers and color the pictures but that didn't turn out too well because they all wanted markers someone else had. They eventually finished and Ms. Small came back in time. It was a great experience but I know I need so much more experience in getting their attention and having them participate in what I am doing.

Next was the speech class. Ms. Swoboda asked everyone to sound out some words and tell the first letter, last letter, and middle sounds and blends. Some of the kids had trouble removing a letter from a word. For example, the word club, if you take out the L, the word becomes cub. They did better when they had to take away the first letter like spun and take away the S instead of taking away a letter in the middle. The kids were doing well in this class; they were all listening and cooperating. Now they are starting their homework which is to answer questions in their books because tonight they are studying for a spelling test.

Next class was the second and third grade. They were finishing math when I first came in. Some of the kids are still working on their multiplication tables so that they can have their ice cream party that Ms. Selkowe promised them. Next, they moved on to social studies. At first, everyone was participating in the lesson. They were talking a lot so Ms. Rosenberg

stopped and waited for their attention. They were complaining about the assignment, not wanting to do what the teacher was doing. Ms. Rosenberg had to wait a lot during this class.

March 31, 2003

Second and third grade science
When I first got in, I was supposed to go to speech but Ms. Selkowe said that one of the kids was having a difficult day and he needed some support. So, I went to her class. It turned out that by the time the student got back to the class after music, he was doing much better. He stayed in the class with Ms. Selkowe and she gave him some extra attention. They did science. They had a talk about how compasses work. Most of the class were saying what compasses do but not how they work. They are going to continue the discussion tomorrow.

Language Arts with the sixth, seventh and eighth grade class
They were very interested in me this period. They were asking what I was writing and why. Why I was there and what grade I am in. I explained to them a little about what an internship is and a little about the notes I take. I think they felt better when I told them what I was writing about. They always think its something about them; something bad about them. They are working on their grammar; doing their work individually.

Speech group
This group played a game called brainopoly, which is similar to monopoly but they have to answer questions for points. They need a lot of social training, they are not very nice to each other, they insult each other, they are very quick to say someone is wrong, and they are very competitive and don't play games well together. One of the kids said very loud when no one was speaking, "Shut up!" to one of the other kids and Ms. Swoboda said nothing. She lets way too many things go and picks on the small things. Throughout the class, they are even more insulting to each other and all Ms. Swoboda says is guys... or she will tell them to get out and never follow through with it and they know it. All she does is threaten them. If they are not doing what she wants she says she is going to send them to the principal's office or she is going to give them a worksheet to do because she knows they don't like that. So they stop for a minute but then do it again because there is no real punishment.

2nd/3rd grade literature
One of the boys forgot his book and said I guess my mother forgot to put it in my bag I should slap her in the face. I thought that was a very strange comment. Ms. Rosenberg was

having a very hard time controlling her group. She raised her voice at one of the girls because she wasn't listening; it didn't do anything because the girl kept doing what she was doing.

April 2, 2003

I spent the first period with the kindergarten/first grade class. They continued reading and analyzing *Jaspers Beanstalk* (a book they have been reading). They tried to remember everything that happened on each day in the book. Then it was off to speech and language with Sam, Sylvia, and Matthew. This group is doing well. Matthew is on new medication and from what I hear; it is helping him in school. This period they tried to explain simple concepts to people; like what a desk is, or what a ring is.

Next I went downstairs to spend time with the second/third grade. When I got down there one of the girls that I know was having a hard time. She was having a fight with one of her friends in the class. We went for a walk to talk about it. She opened up to me without me even probing for information about what was wrong. She told me all about a fight that they had in gym. We spoke about some different ways she could handle it one of which being that she could talk to the girl and that is the resolution she chose. She asked if I would stay with her when she did it and I said of course; we decided we would do this at lunch.

The kindergarten/first grade class was working on math when I got there. Ms. Small had them playing a game with coins. They had to roll the dice and see what number they came up with, and then they would take out pennies to represent that number on the dice. The object was to be the first person to get up to 25 cents. They also had to try to exchange their pennies for some bigger coins like nickels and dimes. Every time they had five cents in pennies, they would change it for a nickel and eventually when they had 10 cents in pennies, they would change them for a dime.

April 7, 2003

The language arts group worked on diagraphs, consonants, and blends this class. Diagraphs as they learned it are two consonant letters that represent one sound. Consonants are two of the same letter that represent one sound, and blends are two consonant sounds next to each other that represent two different sounds but blend together. They also read the book *Holes*.

The next group was the speech group. They worked on comprehension for their lesson. Ms. Swoboda read a story and asked questions about it. Some of the kids did well but many of them have difficulty with this skill. Some of them did not do well because they were talking

through the story so they didn't hear it and couldn't answer the questions. I asked Ms. Swoboda if she considered giving reinforcements for good behavior instead of just for answering questions (which is what she does now). She said she tried but it didn't work with the "speech bucks", which is what she uses to reinforce them for answering questions correctly. I asked her if she tried anything besides the "bucks" and she said that nothing works with them. I think she should try something else maybe a different reward for good behavior. It works with answering questions so it may work with behavior if a creative alternative is tried. The reason I kept asking Ms. Swoboda this is that this group really needs something to control them. They do not behave well for her and I think she really needs to do something about it because they walk all over her.

Next, I went to the second and third grade who was working on literature. They are reading *Helen Keller* so the teacher, Ms. Rosenberg decided to teach them a little bit of sign language so that they might get to feel a little bit of how Helen Keller felt everyday. They were to only talk using sign language, however that didn't work. Ms. Rosenberg asked if I knew any sign language and when I told her I knew a little she asked me to help her act out a skit of sign language so the kids could get into what she was trying to do. At first she tried to teach them the whole alphabet but they were talking out loud and were not very interested. When she told the kids to learn the letters of their names and they could learn how to sign their names they were much more interested. They learned their names and how to say I'm very happy to meet you. They enjoyed what they were learning and the lesson went well. The only down side to this was that the kids were not very well behaved. They were not doing anything wrong but they were very loud and when Ms. Rosenberg tried to get their attention, no one would listen to her. She seems nervous in front of them; she even asked me the other day what I thought of a certain situation that went on in the classroom because she didn't know how to solve it. She is still a new teacher and is learning how to do different things in the classroom.

April 9, 2003

Ms. Small showed the kindergarten/first grade class a picture of blocks and they had real blocks in front of them to make the picture she showed them. First, she showed them a picture and let them look and copy it, then she showed them a picture and put it away and they had to put their blocks together from memory. Most of the kids did really well with this.

The speech and language group was reviewing for science. Ms. Swoboda worked on making note cards with them. This will help them with their study skills, which many of the students

need much help with. Then I went downstairs to help one of the teachers. She needed two of her students to take a make-up math test; I stayed with them.

Next, the language arts class met and did some reading with their reading text books. This book is used to practice reading and comprehension. There are questions at the end of each chapter to see if they understood what they read. They each take turns reading paragraphs in the chapter. Then they started their homework because they have a lot to do. They are answering the questions in the back of the book. Some of them have trouble writing complete sentences. I worked with one boy specifically who had a lot of trouble with this task. He had no trouble with answering the questions so that meant that his comprehension was on track, however, he did not know how to answer in a complete sentence. He would answer all of his questions starting with because and when I explained it to him it made a little bit more sense, but he still needed my help. He was motivated to finish his work when he had the help, if he was left alone, however, he did not complete his work. He would talk to the kids next to him and not really care about the work. I saw a dramatic change in his motivation when he received the help. He got right on track, answered the questions, asked me questions on how to do the work, and he even wanted to keep going when the teacher said that the time was up.
When I saw the kindergarten/first grade class in the afternoon, their behavior changed. The kids who are normally bouncing off the wall were quiet and the kids who are usually quiet were bouncing off the walls. It was strange, but Ms. Small handled it very well. She always knows how to talk to the kids to keep them in control while still making them feel good, no one walks away feeling badly. Ms. Small had a game for the kids to play to help their reading skills. One person stood up in front of the class and Ms. Small gave them word endings to hang around their necks on an index card (Ex: in). Each other student had a letter to go in front of the ending (Ex: P, W, F) and someone else wrote the word that was made on the card on the board. Everyone got a turn and everyone sounded out their words and letters. It was a great idea for them to play and learn at the same time.

April 14, 2003

This morning I went to the language arts class. They were trying to finish the book *Holes* because the movie is coming out and they are going to take the class to see it but they have to finish the book first. The question came up about race in the book; it takes place over 100 years ago. A white woman likes a black man and Ms. Swoboda asked what the kids think is going to happen. They said it won't be accepted because they are different. Then they started asking questions about what a baby would look like from an inter-racial couple (not in those words). It was a tricky topic as Ms. Swoboda tried to explain. Next I went to the second and

third grade class. They were working on math and continuing to learn their multiplication tables. The students are doing very well with this. I think it was a great idea for Ms. Selkowe to tell the kids they will get an ice cream party when they learn at least six of their multiplication tables. This highly motivated them and they are working like crazy to get that ice cream!

Next I went to the kindergarten/first grade class where they were also doing math. They were continuing their game with the coins. This game has been great for them. They love to play and they are learning how to count change in the process. I have noticed great improvement in the kids. They went from not knowing which coin is which to not only discriminating between coins but also making change of their own.

April 16, 2003

Today is my last day of interning at Bay Ridge Prep. I am going to visit all of the classes and say goodbye. I thanked all of the teachers who helped me and my supervisor. They were all great and said that I was a lot of help in their classes and I told them how much I learned from them. This internship was a very valuable experience.

IV. Discussion

This past semester has taught me a great deal. Each situation that I encountered was unique in its own way. Each student is also unique in their own way. There were many times in which I had no idea what to do in the classroom. I spoke to my supervisor and to the teachers of the classes I sat in on and I received some excellent advice. I realize that there are many times in a classroom in which you will not know what to do, but if you follow your instincts and you have the students' best interests in mind, then you will do the right thing. By talking with others you can really learn a lot. You can listen to their past experiences because they have been in the field much longer.

When working with learning disabled students, it is important to remember that they do not learn or comprehend information the same way that others would; you must be patient with them. You have to think of new and creative ways to teach because the traditional ways do not always work with these students. There were situations when I first started going to the school in which I watched the teacher teach and I wondered why she had to repeat herself so many times. Then I realized that they were simply not understanding her. I took for granted the way that I learn new information; when I hear it I either understand it right away or by asking questions about the material I can grasp it better. These students not only did not understand the information given, but they did not know how to ask questions to further their knowledge.

They also have very poor study skills. These are students that are getting ready to enter high school and they did not even know how to take notes or copy down their homework. The teacher would have them take out their homework notebooks and write down the homework. If she did not tell them to do this, they wouldn't. They also had to have their parents sign their homework and all of their tests. These are tasks that you would normally give a lower school student so they learn how to manage themselves. These students were like lower school students in middle school students' bodies. They have been taught these study skill techniques and note taking techniques before, however, they do not comprehend them. These are some of the main differences between the learning disabled population and the mainstream population and the mainstream students. If we give them that extra time, they will succeed.

This was a great experience for me because I was trying to decide what direction to take after graduation from college. After I spent time with the learning disabled classes and the mainstream classes, it was easier to make a decision about what I would like to do in the future. I enjoyed working in the mainstream classrooms more than the learning disabled classrooms but with the experience I have had this past semester, I would consider working with both populations.

I have learned a great deal from the past semester's internship at Bay Ridge Preparatory School. I have learned how each student is different in their own way and we should embrace that instead of shying away or trying to make everyone learn the same way. Students will never comprehend the same way and I have learned that you must come up with challenging strategies to overcome this obstacle. Through our class discussions and the experiential learning aspect of this class, it has been a valuable learning experience and has made me ready to go out and start my career and my life.

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Section III: Performing and Visual Arts

Ruth Crawford Seeger's *Suite for Small Orchestra*: An American Twentieth-Century Musical Composition

Kelly Parker[1] (Music)

Ruth Crawford Seeger was a very important American composer of the 20th Century. Her work was innovative and was influenced by composers such as Adolf Weidig, Dane Rudhyar, and Henry Cowell. This paper examines one of Seeger's earlier works, Suite for Small Orchestra, written in 1926. I found this piece particularly intriguing because of the polyrhythmic ostinato figures found throughout the first movement. Crawford created interest in this piece through the utilization of complex rhythms rather than through its melodic content. It was very refreshing to research such an accomplished yet relatively unknown American composer, and to gain insight into a woman that was able to leave her mark on 20th Century music.

Ruth Crawford was born in East Liverpool, Ohio, on July 3, 1901 to Clark and Clara Crawford. She was born to upper-middle class parents, and had one older sibling, Carl. Both Clark and Clara were well educated individuals that tended to be well respected members of the community. Clark was a Methodist minister, and thus was often reassigned to different towns across the country. Before Clark's death in 1912, the Crawford family had lived in Liverpool, Ohio; Akron, Ohio; St. Louis, Missouri, Muncie and Bluffton, Indiana; and finally Jacksonville, Florida, where the family remained after their father had passed on. Even in the face of raising two children alone, Clara Crawford showed her poise and determination by purchasing a three story home in Jacksonville, and renting extra rooms to outsiders while still providing a home for her children. Clara's love of the arts, devotion to a cause, and determination to achieve her goals against all odds were all traits that were passed on to her daughter, and we see evidence of the first when Ruth Crawford began taking piano lessons not long after the family settled in Florida.[2]

Crawford began her piano training at the School of Musical Art in Jacksonville, where she studied with Bertha Foster and Valborg Collett, a Leipzig trained Norwegian woman that made Crawford more self-conscious and pushed her to strive for perfection.

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[1] Research performed under the direction of Dr. David Schulenberg (Music)

[2] Matilda Gaume, *Ruth Crawford Seeger: Memoirs, Memories, Music* (Metuchen, N.J.: The Scarecrow Press, Inc., 1986), 8.

Upon Crawford's graduation from high school, Foster offered her a teaching position at the School of Musical Art, hoping that she would use this time to bring her musical abilities to a higher level. While studying with Madame Collett, Crawford found it at times difficult to keep up with the demands of her teacher. This resulted not from of a lack of enthusiasm, but from a muscle-cramping issue that would plague her throughout her career. Though she sought both osteopathic and electrical treatments, Crawford was never able to get past this debilitating problem and in college realized that she could never have a career as a concert pianist.

During the three years that followed her high school graduation, Ruth Crawford continued to take and give piano lessons. She also took a few harmony lessons while she saved her money to pay for her collegiate level training, either in New York or Chicago. Crawford chose to attend the American Conservatory in Chicago and began her studies in fall 1921. Crawford came to the Conservatory with the idea of pursuing advanced study in music and of receiving training as a pianist.[3] She intended to stay for only one year and thus was expected to take both the first and second years of harmony at the same time. She adjusted very well to these circumstances and at the same time became very interested in harmony. At the beginning of her second semester at the Conservatory, Crawford showed her piece *Elf Dance* (composed several years earlier while still in Jacksonville) to one of her harmony professors, Adolf Weidig. Weidig thought it showed distinct talent and became Crawford's first mentor in her compositional endeavors.[4]

While she was discovering success in her study of harmony, Crawford found her muscle problems to be detrimental to her advancement in piano. In a letter to her mother, Crawford proclaimed "I cannot practice! My left arm has gone on strike!"[5] By the end of her first year at the Conservatory, her piano teacher Henoit Levy encouraged Crawford to continue her studies in Chicago and made her aware of a position teaching piano on the south side of Chicago. Crawford accepted the position and ended up staying at the Conservatory until 1927, when she graduated with her master's degree in composition.

Crawford did not begin studying composition formally until her third year at the Conservatory, but a few manuscripts survive that Crawford dated as early as 1922. These pieces include many small piano studies that she most likely used in teaching lessons: *Little Waltz* (1922), *Caprice* (1922), and other small exercises that focus on trills and triplet studies. Two songs, *To One Away* and *Return*, are dated 1923, as are *Nocturne* for violin and piano, Theme and Variations for piano, and the first movement of a piano

[3] Ibid, 21
[4] Ruth Crawford. Letter to her mother, October 16, 1921 found in *Ruth Crawford Seeger: Memoirs, Memories, Music* (Metuchen, N.J.: The Scarecrow Press, Inc., 1986)
[5] Ibid

sonata.[6] Crawford's *Kaleidoscopic Changes on an Original Theme, Ending with a Fugue* (1924), her most ambitious piece to date that is romantic in style, yet it has its share of dissonances with Scriabinesque harmonies.[7]

Crawford's 1926 *Suite for Small Orchestra* (now also referred to as "Music for Small Orchestra") was written while she was still in Chicago working on her Master's degree. As she matured as a young woman and composer, she found her own voice and new influences on her career. Yet because of the hard work she had put in with her instructor, Crawford spoke of Weidig later in life by saying "Sprinkling sevenths and ninths plentifully and insistently, and observing or breaking the solemn rules of harmony with equal regularity, I was guided with great understanding during the next years by Adolf Weidig…who seems to me to have had an unusual balance between necessary discipline and necessary allowance of individuality." [8]

In 1924, Crawford began taking piano lessons with Djane Lavoie Herz, a musical socialite who had come to Chicago in 1923 when her pupil, Gitta Gradova, made a "somewhat sensational New York debut and was accorded lavish praise by the critics."[9] Madame Herz was French Canadian but moved to England when she was 16 to study at the Royal Academy. After some time there she moved to Paris and then to Berlin, where she studied with Arthur Schnabel and was introduced to Alexander Scriabin, whose pupil she became for the next two years. As a result of this exposure, the hand of Scriabin lies heavy on Ruth's works dating from 1924 to 1929. Crawford admired his philosophical ideas and used techniques such as atonality, extensive use of dissonance, clearly marked dynamics, ostinato, and having a high degree of organization within the music while having it sound improvised. When examining the *Suite for Small Orchestra* for these similarities, one notices that the first movement works its way to two dynamic climaxes, which are further enhanced by a textural increase towards these two high points.[10]

The movement opens with only the piano playing f' (Figure 1) on the off-beats but gradually gains depth through the addition of polyrhythmic ostinato patterns and short solo passages that are often written in the extreme ranges of the particular instrument. At rehearsal letter C, the piano continues to play on the off-beats in the right hand while playing four-pitch chords in the left (Figure 2). The cello continues with the quintuplet

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[6] Matilda Gaume, *Ruth Crawford Seeger: Memoirs, Memories, Music* (Metuchen, N.J.: The Scarecrow Press, Inc., 1986), 133.
[7] Ibid
[8] Ruth Crawford, letter to Nicolas Slonimsky, January 29, 1933 found in *Ruth Crawford Seeger: Memoirs, Memories, Music* (Metuchen, N.J.: The Scarecrow Press, Inc., 1986)
[9] The Musical Courier (October 30, 1924), p.23
[10] Matilda Gaume, *Ruth Crawford Seeger: Memoirs, Memories, Music* (Metuchen, N.J.: The Scarecrow Press, Inc., 1986), 140.

ostinato it has been playing since rehearsal letter A, against the bassoon solo line containing triplets. The rhythmic texture at rehearsal letter F is the densest in that all instruments (except clarinet) are playing, and, more importantly, there are five polyrhythmic lines sounding against each other. The flute has triplets, the bassoon has duplets, violin I and II has sextuplets, cello I has quadruplets, and the right hand of the piano has quintuplets in octaves. The left hand of the piano still has a four-pitch chord in the left hand, while the violin III and IV and cello I have whole and dotted half notes respectively to add more depth to the music (Figure 3).

Harmonically, this piece is atonal, but that does not take away from the deliberate organization employed by Crawford as demonstrated by the gradual addition of instruments and polyrhythmic figures. This piece is not serial, but there are several instances where all twelve pitch classes are heard within a measure. In discussing the *Suite* in her book, *Ruth Crawford Seeger: Memoirs, Music, Memories*, Matilda Gaume wrote: "Both movements show the use of layered rhythmic and melodic ostinati and tone clusters, which became characteristic of her style."[11] Gaume was incorrect in calling the pitches in the piece tone clusters because there are repeated pitches in different octaves and they are not in close position. Crawford liked to experiment with wide ranges of the instruments; I would classify the notes as pitch collections (Figure 4).

Herz also introduced Crawford to Dane Rudhyar, a French composer who was also very attracted to the ideas of Alexander Scriabin. Rudhyar shared his interest in the music from "long ago and the far away and exotic lands."[12] Rudhyar's affinity for block chords and his interest in the moment rather than the forward motion of the music had some influence on Crawford's approach to rhythm. In the *Suite* she uses a four pitch chord in the bass of the piano throughout most of the first movement. Crawford demonstrates use of polyrhythmic patterns and melodic lines that begin on the upbeat as well as her interest in creating a piece that was rhythmically diverse. Judith Tick explains that the manner in which Crawford chooses to open the *Suite*, a single f' reiterated nine times in off-beat patterns on the piano (m. 1-2), further illustrates Rudhyar's interest in mysticism and his theory of the single tone as a spiritual nucleus (Figure 1).[13] In Rudhyar's *The Rebirth of Hindu Music*, he explains: "Concentrate on a tone and in it, you

[11] Ibid
[12] Ibid, 144.
[13] Ruth Crawford Seeger, *Music for small orchestra (1926); Suite no. 2 for four strings and piano (1929) / Ruth Crawford; edited by Judith Tick and Wayne* Schneider, 2nd ed. (Madison, Wis.: Published for the American Musicological Society by A-R Editions, 1996), xiii.

may discover the secret of being and find Ishwata, the Christ within."[14] The f' persists unchanged for the first twenty-one measures of the Suite; Crawford was demonstrating her interest in mysticism and the symbolism that is conveyed through one repeated tone.

In the same letter in which she praised the guidance of Weidig, Crawford also wrote: "Contact in 1925 with Djane Lavoie Herz, with whom I studied piano, and with Dane Rudhyar, and later with Henry Cowell, established a definite turning-point in my work, and enabled me to see far along the way toward which my numerous student compositions I had been groping."[15] Cowell not only gave Crawford the "courage" to be experimental, but also afforded her the opportunity to have these new works published in Cowell's own *New Music*. Based out of his New Music Society of California, Cowell gave new composers that he deemed worthy of being published, yet still had little chance of doing so, a chance to have their scores seen by the public.

Cowell was not only an advocate for Crawford and other American composers but a composer with his own ideas on the direction of music in the world. Cowell began studying music at the University of California at Berkeley with Charles Seeger, Ruth Crawford's husband to-be, "who encouraged him to develop a more systematic approach to composition."[16] In 1919 Cowell wrote a new treatise on composition, *New Musical Resources*, which focused around the idea that there is a "physical identity between rhythm and harmony."[17] Cowell states that both rhythm and harmony can be reduced to simple mathematical ratios, and that one can translate these ratios from one group to the other, thus utilizing this systematic approach. He also explores issues of dissonant counterpoint, quartal harmony, and tone clusters, but emphasizes what new possibilities lay within various rhythmic combinations.

Examining his *Quartet Romantic* (1917), Cowell demonstrates how one takes the mathematical ratios produced by C major chord, and then converts those intervallic relationships into rhythmic patterns. Cowell explains that the frequencies of c and c' are in the ratio of 2:4, those of c' and e' in the ratio 4:5 and those of e' and g' in the ration of 5:6. Thus, the music is written with groupings of 6 notes against 5 notes against 4 notes and finally against 2 notes, all sounding at once (Figure 5). At the time, Cowell deemed the music unplayable, and even asked the French inventor Lev Terman to build a

[14] Dane Rudhyar, *The Rebirth of Hindu Music* (New York: Samuel Weiser, 1928, 1972), 18.
[15] Ruth Crawford, letter to Nicolas Slonimsky, January 29, 1933, found in *Ruth Crawford Seeger: Memoirs, Memories, Music* (Metuchen, N.J.: The Scarecrow Press, Inc., 1986)
[16] Robert P. Morgan, *Twentieth-Century Music* (New York: W.W. Norton & Company, 1991), 299.
[17] Ibid

machine that could play such complex rhythms.[18] Yet while this music was labeled "impossible," this did not stop Ruth Crawford from doing her own experimenting with polyrhythms in the first movement of her *Suite for Small Orchestra*. Beginning at m. 6 we see a grouping of five quarter notes in the cello I part set against the single pitch f', which has been playing on the upbeats of the measures since the beginning of the piece. As the ostinato figure continues, Crawford adds additional "simple" whole, half, and quarter note lines in the flute, bassoon, cello II and piano parts but does not place another bracketed pattern of pitches (a group of three) against the group of five until measure fourteen. Moving ahead to m. 26, Crawford ambitiously composes groups of three half notes (flute) against two half notes in the bassoon, against six quarter notes in violin I and II, against four quarter notes in cello I, against five quarter notes (in octaves) in the piano (Figure 6). As this was composed in 1926, when Crawford was still a young and rather inexperienced composer, it is doubtful that she was able to hear this piece performed. Crawford had only the sight of Cowell's music and the ideas of the still unpublished *New Musical Resource* (it remained as such until 1930) to go by when composing this suite. It is even more remarkable that Crawford dared to use a larger ensemble; Cowell's piece was written for string quartet rather than a ten-part orchestra.

In 1929 Ruth Crawford left Chicago for New York on Cowell's recommendation. His intention was for Crawford to begin studying with his former teacher, Charles Seeger, in composition. Seeger was apprehensive about accepting Crawford as his student because he was at that point not completely convinced that a woman should hold a worthy position in the world of musical composition. Cowell was able to convince Seeger to take Crawford on as a student, and his influence became evident in the revision of her *Suite for Five Wind Instruments* and her four *Diaphonic* suites. These suites utilize Seeger's ideas of the dissonating (making dissonant) of a single melody as long as possible.[19] Other pieces that demonstrated Crawford's adoption of Seeger's dissonant tendencies include her last work for piano, *Piano Study in Mixed Accents* (1930), and *Three Songs for Contralto, Oboe, Piano, and Percussion* (1930-1932).

In 1930 Crawford was the first woman to be awarded a Guggenheim Foundation fellowship for European study in composition. While there, Crawford wrote her String Quartet (1931), the most distinguished of her works. It was first performed in 1933. Charles Seeger described the third movement as a study in "dynamic counterpoint," as each of the four parts has an ever changing dynamic pattern, and the final movement as an example of total organization of pitch, rests, rhythm, dynamics, tempo,

[18] Ibid, 300.
[19] Charles Seeger, "On Dissonant Counterpoint," *Modern Music*, 7 (1930): 25-31.

instrumentation and form.[20] Crawford returned to the United States in November 1931, and in 1932 she married Charles Seeger. The marriage to her former teacher changed Crawford's life both musically and personally, in that upon the birth of their first child Michael, her focus shifted from her career in composition to raising a family.

While Ruth Crawford Seeger seemed suddenly to "give up" her music in exchange of her tending to her growing family in the early 1930's, she did not abandon the art so much as change focus from composing modern pieces to reflect 1930's radical politic as well as Seeger's work as an ethnomusicologist. The Great Depression had an impact on the Seeger family income, and Ruth and her husband Charles began to consider how music could a provide "voice" to express the nation's social, political and economic troubles. Once again in 1932 Henry Cowell entered the Seeger family's life and introduced them to a group of musicians in New York known as the Composers' Collective. Charles Seeger recalled that the purpose of the group was "to connect music somehow or other with the economic situation."[21] Crawford Seeger wrote only two original compositions for the Composers' Collective, *Sacco Vanzetti*, and *Chinaman, Laundryman*. While these pieces were written with the intention of impacting those most severely affected by the Depression, both Ruth and Charles realized that people were looking for something familiar in a time of such distress and uncertainty. Thus, Crawford's focus changed again, from writing new songs to express the status of society to bringing new life to America's folk music.

As a result, both Ruth and Charles began an intense study of the "true music of the people" by researching Anglo-American folk music and finding many discrepancies between the published and recorded versions of many of these works. While living in New York, the two forged a lasting friendship with John and Alan Lomax, who soon asked Crawford Seeger to write the musical transcriptions for their new anthology, *Our Singing Country*. She accepted the offer, and also provided the Lomaxes with insightful remarks at the beginning of the book on how one should go about performing folk music.

In 1935 Crawford Seeger and her still growing family moved from New York to Washington D.C., where both she and Charles became more immersed in folk music. Charles had earned a position working with the Resettlement Administration and later with the Federal Music project.[22] Ruth gained access to the Archives of American Folk Music in the Library of Congress while she was working on *Our Singing Country* and also used these resources to write her second and final essay for orchestra, *Rissolty,*

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[20] Jane Bowers, *Women Making Music: The Western Art Tradition, 1150-1950* (Chicago: University of Illinois Press, 1986), 377.
[21] Charles Seeger. Taped interview for Matilda Gaume. London, July 1967.
[22] Jane Bowers, *Women Making Music: The Western Art Tradition, 1150-1950* (Chicago: University of Illinois Press, 1986), 380.

Rossolty.[23] This work was commissioned by CBS and was based on three folk songs transcribed from the Library of Congress. "Had she lived longer, she probably would have written other original compositions using folk materials."[24]

In the 1940's Crawford Seeger spent much of her time teaching music in nursery schools in the Washington D.C. area. She had great capability in the classroom, as she was patient and empathetic with the young children that she worked with. During this time Crawford Seeger also became one of the leaders of the group of women who organized the cooperative Silver Spring (Maryland) Nursery School, in the Washington D.C. suburb where the Seegers were living.[25] Even while she was teaching Ruth continued her work with folk music by compiling three books of folk songs for voice and piano: *American Folk Songs for Children* (1948), *Animal Folk Songs for Children* (1950), and *Christmas Folk Songs for Children* (1953).

Ruth Crawford Seeger's final completed work before her death in 1953 was *Suite for Wind Quintet* (1952), which was written more in her early modern style than in the folk style that she had adopted over the previous fifteen years. While she wrote fewer than thirty original works overall, Crawford's impact on twentieth-century music and American music history has been firmly established as a result of her perseverance and dedication to what she loved. Crawford's compositional abilities were recognized and encouraged by the leading musical minds in Chicago, New York, and throughout her studies in Europe as a result of her Guggenheim Fellowship. While she did put aside her career in composition to nurture her growing family, Crawford found a new passion through the analysis and transcription of folk music, and helped reunite Americans with traditional music that provided comfort during the unstable times of the Great Depression. Crawford's collections of folk music also provided music teachers with a great resource in their classrooms, and her work with the music programs in nursery schools around Washington D.C. should be remembered and admired by future music educators. Ruth Crawford Seeger was a dynamic woman who achieved success in two different musical careers as well as in her family life, something that so many women still find difficult to do today, and thus is a wonderful role model for those of us that wish to do so as well.

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[23] Ibid

[24] Charles Seeger. Taped interview for Matilda Gaume. London, July 1967.

[25] Peggy Seeger. Taped recollections for Matilda Gaume. Kent, England, July 22 1977.

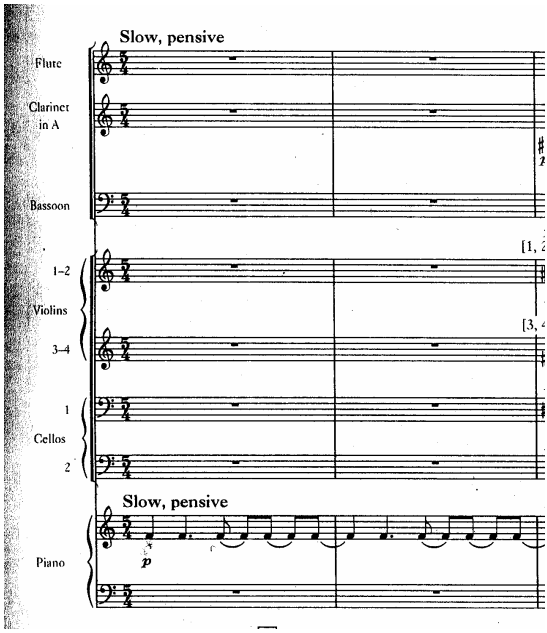

Figure 1 taken from Ruth Crawford Seeger's *Suite for Small Orchestra*, 1926.[26]

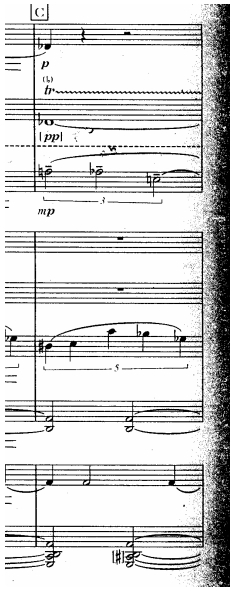

Figure 2 taken from Ruth Crawford Seeger's *Suite for for Small Orchestra*, 1926.[27]

[26] Ruth Crawford Seeger, *Music for small orchestra (1926); Suite no. 2 for four strings and piano (1929) / Ruth Crawford; edited by Judith Tick and Wayne* Schneider, 2nd ed. (Madison, Wis.: Published for the American Musicological Society by A-R Editions, 1996)
[27] Ibid

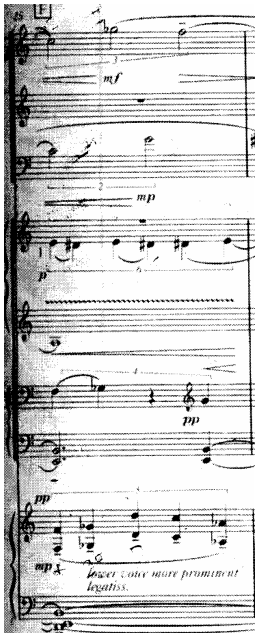

Figure 3: Crawford's use of polyrhythmic figures in her *Suite for Small Orchestra* (1926).[28]

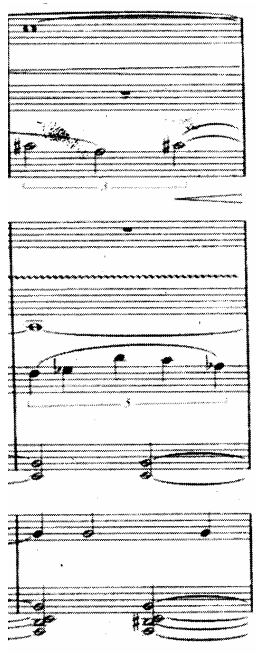

Figure 4: Crawford's use of pitch collections, not clusters, in that the notes are not in close position, and that the pitch classes c, e, a, and b are notated twice.[29]

[28] Ibid
[29] Ibid

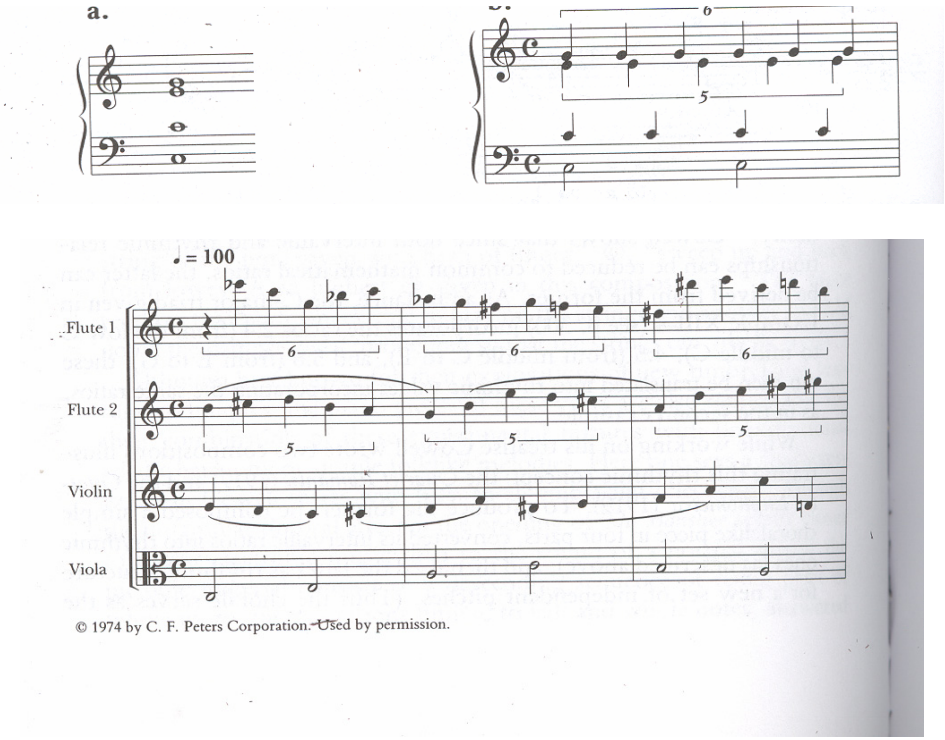

Figure 5: Cowell's derivation of polyrhythmic texture in his *New Musical Resources* and *Quartet Romantic* (1917).[30]

[30] Robert P. Morgan, *Twentieth-Century Music* (New York: W.W. Norton & Company, 1991), 299.

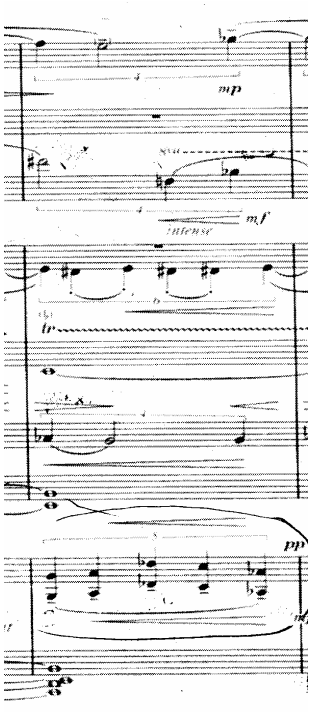

Figure 6: *Suite for Small Orchestra* picture indicating that Crawford's use of polyrhythmic texture is similar to Cowell's.[31]

[31] Ruth Crawford Seeger, *Music for small orchestra (1926); Suite no. 2 for four strings and piano (1929) / Ruth Crawford; edited by Judith Tick and Wayne* Schneider, 2nd ed. (Madison, Wis.: Published for the American Musicological Society by A-R Editions, 1996)

Section IV: The Humanities

El antiracionalismo en *El túnel y La resistencia*, de Ernesto Sábato

(Anti-Rationalism in Ernesto Sábato's Resistance and The Tunnel)

Susan Altman[1,2] (Spanish)

Argentinian writer Ernesto Sábato has criticized the dangers of rationalism throughout most of his literary career. *El túnel* (*The Tunnel*), published in 1948, is a novel in which Sábato's philosophical views are clearly defined. More recently in *La resistencia* (2000) (*Resistance*), a non-fiction text, the author turns his philosophical preoccupations to today's society. In *The Tunnel*, the main protagonist kills the woman with whom he is in love when he thinks she has betrayed him; tension has resulted from his attempt to rationalize love. Although there is no literal death in *La resistencia*, Sábato examines the death of humanity on a different level. Here he warns us that we live in a society in which globalization is turning us into clones, and that our interest in advanced technology, rather than people, will ultimately lead us to our extinction. For Sábato, a human being must be able to accept the illogical and the unexplainable in order to exist.

El antiracionalismo en La resistencia y El túnel, de Ernesto Sábato

El autor argentino Ernesto Sábato ha escrito dos obras, El túnel (1948) y La resistencia (2000), que critican el racionalismo. La resistencia es una clara reflexión de su filosofía, mientras El túnel es un texto ficticio en el cual se vislumbra de forma más sutíl. Sábato pide "una vida más humana" al criticar el hecho de que vivimos en una sociedad donde se les da más importancia a las cosas que a las personas. Perdemos nuestra humanidad cuando sucumbimos a la tecnología y a la producción. Pasamos tiempo absortos en productos electrónicos en vez de interactuar con otras personas, o con la naturaleza. Por lo tanto, la búsqueda del objeto se considera más importante que resolver el problema de la pobreza. Los que no producen, no son importantes. Esta tesis antiracional se percibe a su vez en El túnel, aunque en este texto ficticio el escritor se enfoca en maneras de

[1] Research performed under the direction of Dr. Katica Urbanc (Languages).
[2] Dr. Margarita Sánchez (Languages) reviewed paper as a second reader.

pensar, mostrándonos la mentalidad hiperconsciente y lógica de Juan Pablo Castel y la mentalidad más intuitiva de María Iribarne Hunter.

En La resistencia Sábato trae a colación la posibilidad de llevar "una vida más humana" y pide que sus lectores consideren la vida de otra manera. Según Sabato, pasamos mucho tiempo con la televisión, las películas, el teléfono, y la computadora; sin embargo, en su lugar, uno debería concentrarse en el arte de la conversación, apreciar la vida cotidiana, y gozar de los paisajes naturales. Siente que un resultado de este estilo de vida es que los niños no ven más que violencia y destrucción en la televisión y en los juegos. Opina que al vivir así, los seres humanos pueden llegar a extinguirse como se extinguieron los reptiles. También, según Sábato tenemos que cuidar la tierra de la cual dependemos tanto; si no cuidamos de la tierra, se puede perjudicar toda vida futura.

Sábato siente que "... nuestra «sociedad avanzada» deja de lado a quienes no producen" (64); vivimos en una sociedad inquieta por la "idolatría de tecnología" y la«explotación» (83) puesto que las personas harían cualquier cosa por dinero. El autor opina que el poder mundial está concentrado en manos de veinte o treinta empresas y que vivimos en un mundo donde a pesar de la alta tecnología, todavía existe la pobreza. Siente que la masificación ha traído una pérdida de originalidad a causa de la globalización, y que la gente está asustada de tomar sus propias decisiones por temor a perder sus puestos.

Para Sábato, la democracia, que trae justicia social y libertad, es buena. Opina que el ser humano y la originalidad son necesarias para la democracia. Sábato cita a Lord Acton: "El poder corrompe, pero el poder absoluto corrompe absolutamente" (84). El autor comparte con nosotros sus ideas existencialistas. "Si vivimos como autómatas seremos ciegos a las huellas que los hombres nos van dejando […]", nos dice (19). Según Sábato, si se pierden las relaciones humanas, las cosas tomarán poder sobre nosotros. El alma humana anima el cuerpo humano, al igual que el ser humano anima el objeto. La presencia de un hombre es detectada en acciones y objetos.

Es interesante notar que mucho antes de escribir La resistencia, el autor expuso algunas de estas preocupaciones filosoficas en El túnel. El protagonista de esta novela, Juan Pablo Castel, opina que la vanidad contibuye al progreso de la humanidad. Sin embargo a Mimí, otro personaje, no le gusta que la gente tenga mucho éxito. Para ella, la grandeza y el dramatismo son demasiado agresivos y el artista no debe llamar la atención sobre sí mismo. En su opinión no es cortés mostrar originalidad, pues esto manifiesta la mediocridad de los demás. Sin embargo el apunte filosófico principal en esta novela es el antiracionalismo. Aquí, el autor no critica la tecnología, sino la mentalidad lógica en un solo hombre, Juan Pablo Castel. Juan Pablo, un artista, se enamora de María Iribarne Hunter porque cree que es la única persona que entiende su arte. Cuando cree descubrir que ella lo ha traicionado con otro amante, la mata.

Juan Pablo busca agresivamente a María. Es un ser hiperconsciente y racional, aunque su lógica no da resultado (Holzapfel 440). No es capaz de aceptar reacciones por las cuales no hay motivos aparentes, o a lo mejor, motivos oscuros. Necesita absolutos y necesita evitar tomar decisiones porque sabe que será incorrecta puesto que le faltan datos (Francis y Adams 22). Cuando mata a María, la única persona con quien se siente conectado, destruye la posibilidad de futura comunicación y amor. La historia termina en un sistema cerrado circular. El protagonista ha intentado imponer una estructura racional sobre un universo inexplicable, y su fracaso de aceptar lo ilógico y lo inexplicable lo encerrará en una prisión (Francis y Adams 27). El personaje de Juan Pablo se encuentra existencialmente aislado. Sufre una inhabilidad de comunicar con otros, especialmente con seres queridos.

El personaje de María se opone claramente al de Juan Pablo. Es callada y reservada. Es intuitiva. Acepta una visión relativa e inexplicable del universo. Para María, la elección correcta es sin importancia porque no hay absolutos y todo es igual. María se enfrenta bien con lo relativo y filtra cuidadosamente todo lo que no cabe dentro de su comprensión. Claramente, se adapta a las situaciones que ofrece el mundo (Adams y Francis 22). La novela presenta por lo tanto un conflicto entre lo racional, Juan Pablo, y lo irracional, María. Este conflicto se extiende a la psique de Juan Pablo; según Francis y Adams, el protagonista siente tanto amor rationalista como emocional por María. Es interesante observar que la idea de «crisis de consciencia» que se vislumbra en el siglo diecinueve fue una reacción contra la confianza científica en la racionalidad y la perfeccion del hombre (Holzapfel 441). En El túnel, percibimos una extensión de esta filosofía en el siglo veinte con su mecanización de la vida (Holapfel 441). El arte brinda un escape y un camino a la salvación en un mundo dominado por la tecnología y la ciencia. El título es apropiado, pues el túnel representa el aislamiento del hombre moderno y su profunda enajenación (Holzapfel 440 y Márquez 361). María dice que ella «no es nadie» y piensa que como artista Juan Pablo no la necesita. Juan Pablo, al contrario, piensa que ella le da un sentido a su arte. No piensa que los críticos sepan nada porque no supieron entender la verdad hallada en sus cuadros.

Sábato señala en El túnel que viveremos todos en un túnel si no aceptamos lo ilógico y lo inexplicable de la vida. En La resistencia, el autor advierte que la obsesión de nuestra sociedad con la tecnología puede llevarnos a la extinción. También lo puede hacer la globalización, ya que nos convierte en clones. Esta pauta que fija el fin de los humanos se vislumbra a su vez en El túnel, donde la inhabilidad de aceptar lo irracional conduce a la muerte.

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Section V:
Professional Programs

Commodities Futures Markets

Rich Barbiera[1] (Business)

Topic: *Why should or would companies hedge into the commodities futures markets?*

My paper will entail information behind commodities. I intend to cover the history behind commodities. I will answer questions such as: What is the significance of trading a commodity you own in the market? There will also be many other questions I will be analyzing and explaining about the market that date back to the first floor a commodity was traded on. Using examples I will show the different types of hedges and trades. How external factors affect the price market, which in turn affects trading.

I will cover hedging and the 'basis'. Why do companies hedge or contain hedging programs with which they enter certain markets with their products or commodities? I intend to explain about hedging. What is a hedge? This is both the most basic, and the most important term that I will delve into. Next I will show how commercial hedging is important for firms to interact in because it can play a big differential between the total net loss and net profit a company reaches at the end of each year. Finally comparing hedging to just the basic concept of using one's knowledge about the price market to trade for oneself and make some money.

Commodities, in their original form as agricultural products, reflect one of the earliest industries, farming. Around the time of the Civil War, the farmer usually took the brunt of market fluctuations. If he was ready to sell after the harvest, so was everyone else. There was an excess of supplies, even more so than the amount required by consumers, resulting in depressed price levels. Farmers had several alternatives: accept whatever price that could be derived from the already oversupplied market, put their crops back into storage in the hope prices would improve, or haul their crops back home (Horn 1984).

The situation reversed itself toward the end of the harvest season. Unsold grain became in shorter supply as the season's crop was consumed. This scarcity resulted in much higher and unwanted prices. Grain merchants were forced to buy the the year's supply, which was much more than they could utilize, during the harvest period. If not, they had to pay inflated prices late in the marketing year, before the next harvesting season, in order to keep their mills running while manufacturers competed for

[1] Research performed under the direction of Dr. Mary Lo Re (Business)

the availability of whatever amount of the supply was left, or in stock. In the case of oversupply of the crop, goods had to be sold at fire-sale prices. (Horn 1984) Fire-sale prices are like selling at the lowest price possible, practically giving the crop or commodity away. At this stage of the game farmers are even willing to accept offers made by the consumers.

To protect themselves against such seasonal fluctuations, producers and consumers of commodities, such as crops, began to buy and sell for forward delivery. Such transactions, or as we know them as to-arrive contracts, involved a binding transaction between say a farmer and someone looking to purchase what the farmer is offering, consumer. A contract is formed for a certain amount of a commodity to be delivered at a certain price in a certain amount of days. Arrival of the commodity could be ten, thirty, or even sixty days later. However, this deferred delivery did not eliminate all of the risk involved. Risk still lay upon the buyer and/or seller's shoulders. An example of this would be: "A miller agrees on April 1 to buy 5,000 bushels of corn from a farmer for $2.20 per bushel. The corn is to be delivered on June 1. The buyer and seller both agree on a price for a product ‘to arrive’ two months later." (Horn, 5)

This agreement or bound contract does not solve the problem of market risk. The seller takes a risk estimating the return of the crop before harvest and need only worry about its production. Here the seller can lose, however, if say the price per bushel rises by .40 cent to $2.60 by June 1. The seller loses an additional profit of .20 cent. The buyer need only fear a price decrease by the delivery month. Say the price per bushel drops to $2.00, the buyer just suffered a .20 cent loss per bushel.

Commodities are traded in the future markets for reasons such as perceived risk, profitability, and to hedge products against fluctuating prices. Firms will either place orders or hedge their products into these commodity futures markets. In doing so they are looking to achieve some profit in the process or to simply save their industry some money in future production and distribution. Is it positive financially for a firm to take on such a risk, whereby hedging into the futures markets? Does trading benefit any individuals in particular who take on the risk and if so can they also be scrutinized for such actions?

Firms are looking to protect themselves from the fluctuation of prices, which basically results from the economy. When looking to either enter a commodity into the futures market or just merely enter the market an individual, such as a speculator, firm, or client, must be aware of events taking place around the world, such as a drought, affecting the commodity causing the prices to fluctuate. Then there are the simple terms of *supply* and *demand* for the commodity. Does the desire for the commodity outweigh the supply of it or does the amount of the commodity outweigh the desire? If you know the answers to these questions you can predict the price fluctuations. Reading and

understanding external factors and events that occur in the economy can and most likely will give you an edge in the futures market.

For instance, on the NYMEX (New York Mercantile Exchange), three weeks ago oil was trading as low as $28 dollars in April because news from Iraq portrayed information that U.S soldiers claimed control of a few of the oil fields. On top of that, the Department of Energy (DOE), which calculates the amount of oil and other natural resources, lists the supply circulating in millions of barrels. Three weeks ago that number of supply was positive, meaning there was an excess of barrels in stock, so prices decreased due to less demand of the natural resource of crude oil. However, the news now of a much longer anticipated war caused panic on the floor of NYMEX driving prices back up to approximately $31-$32 dollars in April.

The key to understanding and forecasting where prices will come in, either lower or higher the previous day, is to be able to read the economy and be able to apply the laws of supply and demand toward the futures markets. The economy can be one infinite roller coaster and firms such as ones in the airline industry have to "be ahead of the game". Firms in the airline industry face very low profits to none at all compared to the price per ticket and the price for fuel. So they try to save money on something like fuel by hedging into the futures market to "hopefully" protect themselves against fluctuating prices.

Traders represent commercial firms who use the market for hedging. There can be no serious exceptions to the statement that, "futures trading depends on hedging." (Tweles, 25) Hedgers must find it rewarding to continue to use these markets. Brown states, "Certain propositions can be developed about the price behavior of hedge assets and of fairweather goods."(Brown, 30) The higher the level of hedging the higher the level of the futures business will be. The risk-elimination view of hedging usually begins with the naive illustration of the two kinds of a hedge.

> "A processor holds 100,000 bushels of cash wheat at $2.00 a bushel and its fearful of a decline in price. He immediately sells 100,000 bushels of future contracts at $2.00 and is thereby short hedged (because he sold, but didn't buy back). If the fear decline materializes and wheat drops to $1.85 a bushel, the profit on the short sale of futures offsets the loss on the inventory." (Tweles, 33)

The other kind of hedge would be a long hedge where the processor a commercial business has a commitment to sell 100,000 bushels of wheat at a specific time and price in the future, which he has not contracted to buy. He can protect himself and the business by buying a futures position equal in amount to the forward sale and thereby fix its forward cost. Thus through selling short and buying long to offset the loss or flatten a

position the hedging process is said to eliminate the risk of price fluctuation. (Teweless 1974)

Hedging has to have a basis. The basis is different from area to area and when a hedger refers to basis, he means, "his basis," or the basis of his local area. The basis "is the difference between the cash price at any location and the futures price in any futures exchange."(Angell, 99) It is the change in the basis, rather than the absolute price level, that will determine a hedger's success. A basis may be said to be either "weak" or "strong." A "weak" basis will have a wide difference between futures and cash. A "strong" basis will have only a narrow difference between the two. Whether you have a strong or weak basis depends on a number of factors, among which are the following: "the overall supply and demand of the commodity, how much supply is circulating around the economy and is the demand high enough to support a strong basis; the overall supply and demand of substitute commodities and comparable prices, are there enough substitute commodities out there with prices equal to or less than the one that you are pursing to make money off of; geographic disparities in supply and demand, basically casualties hurricanes, tornadoes, and other ruining say a harvest period or season affecting the supply and quality of the commodity; transportation considerations, is transportation of the commodity cheap and reliable or will you have to worry about incurring a loss from transportation; available storage space, is there enough storage space for you to purchase excess commodities and use them further for your own profitability ."(Angell 1979) The basis also may be strong or weak depending on the type of hedge you are risking to take a position into, whether it be the futures and/or cash markets.

You have the selling hedge, individuals or firms who own the cash commodity, such as farmers. They look to sell the commodity into the futures market and, by definition, become hedged. Having placed this hedge the farmer will then be long cash and short futures. The farmer will have bought more contracts than he has sold in the cash market, where he would be losing money now. Compared to the futures market where he sold more contracts than he bought, where he would be gaining money in the future or date of delivery. Along with this he is looking to take some risk off his back by placing some of the risk into the ring on the floor of the exchange. This speculator is a trader in the pit on one of the many regulated commodity futures markets floors. The speculator is in it for the mere profit not the physical product. The speculator will help the farmer for a commission. Now the farmer has a good season, however, he needs 40 cents to make a profit. He also derives that his basis is about one-half cent below the Chicago futures. If the Chicago futures are selling at 40.5 cents, the local price will be 40 cents, the price he wants for his production. To lock in that price, he sells short in the futures market. Now the price drops 5 cents during the time he is hedged. He has offset

his position because the cash market loss is compensated by the gain on the futures position. If you are an analyst of the futures market you see that the farmer gained back the 5 cents he lost in the cash market by selling a forward or futures contract of his product at 40 cents, avoiding the loss before it drops 5 cents. (Angell 1979)

The farmer could keep hedging into a position, instead of offsetting, until he gains a profit from it, however, he could incur a loss at the same time from continuous hedging, that is the risk. Farmers, as well as other producers of vast commodities, usually pay close attention to all the farm products flowing around in the economy. They have a good idea how much supply there is and therefore can predict what kind of demand exists driving the day-to-day prices to hedge themselves into a successful position. What they don't know is what kind of season they will be graced with.

The buying hedge, buyers look to hedge into a position of a short cash position and a long futures position. Buyers, such as elevator operators, processors, manufacturers, and exporters, take the opposite role of the sellers. A flour miller, who requires wheat in his milling operations, will place a buying hedge to establish his cost objective. The hedge protects him against the possibility of an increase in the price of wheat. On September 1 the flour miller decides he needs 5,000 bushels of wheat at a price of $3.15, and his basis is 10 cents under Chicago. He assumes the basis will remain the same, so he will look for 10 cents higher at a price of $3.25 Chicago wheat to meet his price objective. He needs the wheat in December, because he will be looking to make profits outside the harvesting season. He instructs his speculator to buy December Chicago wheat at $3.25. Next he sees wheat rose 20 cents in both the cash market and the futures market by December 1. The flour miller buys 5,000 bushels of cash wheat on December 1 at $3.35 in the cash market, due to the 20 cents inflation. Next he sells 5,000 bushels in the futures market of December wheat at $3.65. Apparently the futures market rises faster than the cash market so the flour miller comes out with a net profit of $500. He lost $1000 in the cash market but because of the quicker rise of 30 cents in the futures market, he gained $1500. (Angell 1979) The flour miller not only reduced some risk, but also made some futures market. All types of firms are willing to face this risk as well as the adversity, because it is possible to make a sufficient profit on a mere 10-20 cents price change in the fluctuation of the futures market.

Future prices reflect the basis of a hedge and whether you should get yourself out of a position, the selling hedge, or place yourself into one, the buying hedge. Knowing this it is valuable to know what the basis will be at some time in the future, aiding you in a possible prediction of future prices. The futures price for any commodity for any given time reflects in what Angell states, "consensus judgment of that commodity's worth formed by every hedger and speculator participating in the market." (Angell, 1979) Additional buying will push prices higher as well as additional selling will

push prices lower. You must recognize that a sudden change in this "consensus" can occur at any moment. However, why do different futures months trade at different levels? Why would wheat trade at one price in say September, however trade at a very different price in November? "There is a reason and the reason behind the pricing structure reason's why basis changes are apt to be much more predictable than price level changes."(Angell, 1979) Each successive commodity month will sell at a slightly higher price than the nearer month. Angell states, "These higher prices reflect the expenses of storage, insurance, interest, and on the invested capital. All the things of that sort of nature." (Angell, 1979)

There is of course an inverted market, reflecting a short supply. Here distant months sell at a discount to nearby months. You see this in spreads, the trading of two different months at a strike price, same volume and commodity. Because of the short supply situation traders bid up the price of the nearby months and will decrease with each following month. The cash price reflects the supply and demand theory. Who is willing to buy or sell? Is there a surplus or shortage in the economy for a specific commodity or natural resource?

Arbitrage, or what spread trading is sometimes called, is possible when logical price relationships do not exist.

> "When market premiums or discounts are different from product values, differential arbitrage potential exists. Traders look for price differentials, which exceed the cost of transportation between two market locations. The essence of financial markets involves using the discrepancy between borrowing money at a cheaper rate while acquiring an asset that pays a higher rate or has a lower price. The result is arbitrage profit."(Leuthold, 1989)

Arbitrage activity can also be faced if there is any differential between implied rates and quoted futures prices above transaction costs. When a premium or discount is identified speculators will focus on an arbitrage trade because product values differ unless transaction costs are below price differentials, such as implied rates. (Leuthold, 67)

Spreads are a good way to make a quick profit. They are less risky, although they have smaller potential for large gains. These contracts are for different delivery months of the same commodity, but sometimes involve different commodities or the same commodities on different exchanges. These are interdelivery, intercommodity, ~and intermarket spreads. Interdelivery is where a trader purchases contracts of one delivery month while selling another delivery month simultaneously. Intercommodity involves the buying and selling of two totally different commodities, also known as crack spreads. Finally intermarket spreads deal with two totally different markets like NYMEX and COMEX.

If spreads were not different for each pair of delivery months and did not vary from hour to hour, there would be no reason for futures markets to exist. For futures markets to exist for many commodities, something must be special to the spreads for each. Let's look at a natural resource like copper for example. To see the importance of variable spreads to futures markets, consider the simple situation where a competitive economy can consume a finite stock like copper. Suppose it is costless to store the copper. According to well- established models of natural resources, in this world of perfect certainty the equilibrium array of prices at any moment in time, and the realized path of the spot price as well, would be such that the prices for later delivery dates would increase at the rate of interest. If the rate of interest is zero percent per annum, the price of copper for delivery tomorrow would equal that for delivery six days, thirty days, or ten years hence. By simple calculation, the spreads between pairs of futures prices would also be the same, namely zero. (Williams,20)

The two legs of the spread might consist of positions in contracts for different securities or different maturities on the same instrument. Here we can look at interest rate futures; commercial paper interest rates and how they move faster and farther than the interest rates on T-bills of the same maturity during the latter stages of the cyclical trend. Under such circumstances, a spread such as an intercommodity spread during the final months of a cyclical uptrend, as borne out by the experience of the latter half of 1978, would have been to go long both T-bill and commercial paper futures, just as short positions in both contracts would be in order as rates approach the trough of a cyclical downturn. (Loosigian 1980)

A long 90-day T-bill -long 90-day commercial paper spread might have been initiated on June 5, at a 90 basis-point yield premium, commercial paper over T-bills. By November 20, the spread had opened up to 237 basis points, accruing a profit of 147 basis points. Assuming the spread was initiated and "unwound" on those two rates, the profit calculation would have appeared as follows. (Loosigian, 362)

T-Bill and Commercial Paper Spread

June 5, 1978 Commercial Paper Over T-Bills

Buy 1 Dec. 1978 T-Bills at 92.28 (7.72% discount)	Buy 1 Dec. 1978 commercial paper at 8.62% discount	90 basis points
Sell 1 Dec. 1978 T-Bills at 91.17 (8.83% discount)	Sell 1 Dec. 1978 commercial paper at 11.20% discount	227 basis points

Loss $2,775 (111x$25x1) Profit $6,450 (258x$25x1) Spread Profit $3,675 (147x$25x1)

Risk Shifting

Another major function of interest rate futures is risk shifting. "'A futures market allows the separation of the risk of price change from risk arising from other normal business functions similar to the separation of theft or fire risk from other business risks."(Powers, 8) Separating these risks allows them to be "packaged" in special ways and transferred from those who have them but may not want them (hedgers) to those who do want them (speculators). (Powers 1984)

We see through various forms of hedging that the positive outweighs the negative risk factors. Firms, speculators, or even your everyday average traders cannot go wrong entering the futures market or entering a commodity or resource into the futures market and taking that perceived risk. Why take that chance? As you can see knowledge of the external factors, which in turn affect the price fluctuations, which in turn gives you a good idea of where prices may fall, is the key to ultimate profit.

Why buy a contract at a higher price now when you could buy it in the future for a lower price? Why sell a contract at a lower price now when you can make more on a future contract? "There exists one substantial risk, however, for which no commercial insurance: the risk of adverse price change on raw and processed commodities."(Kroll, 303) This is why farmers in the past as well as other producer's of vast commodities hedge themselves into a futures market. There are so many risks, mainly external, but internal as well, so take some risk off, enter a commodity futures market, and plan ahead of the game. I have given several examples of outright trades in the commodities future markets as well as an example of spreads on interest futures showing you why proprietors such as farmers hedged into markets and why firms sometimes will do the same. The commodities market is a hidden one that many people don't know about and don't know how effective it can be for various firms.

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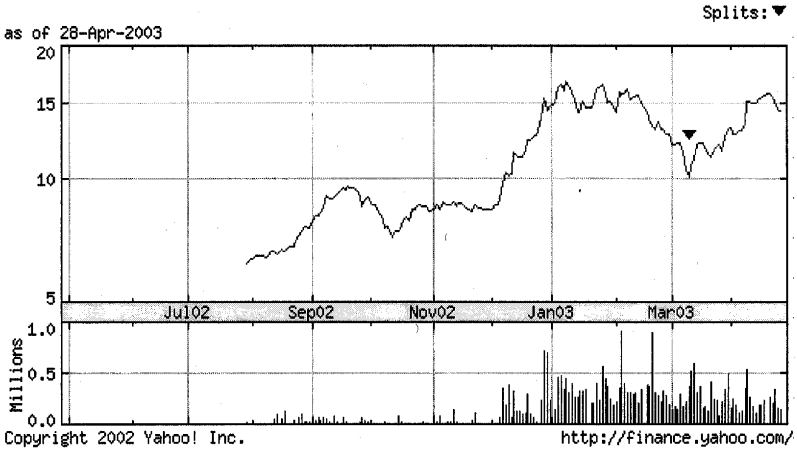
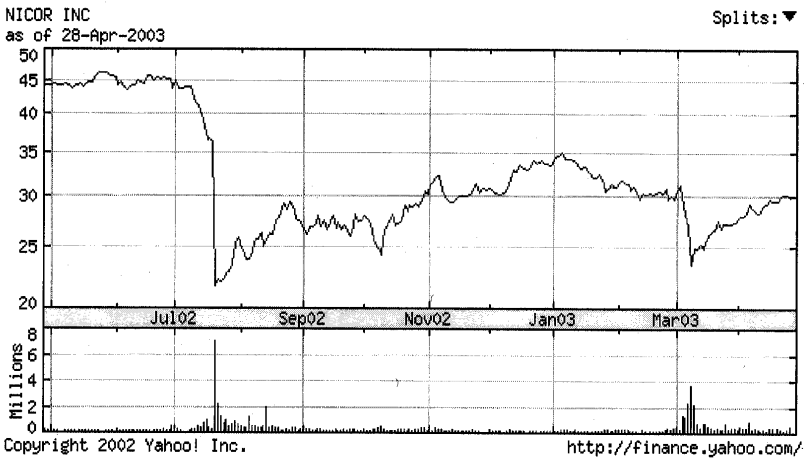
COMEX



Splits: 11-Mar-03 [2:1]

Last Trade	Change		Prev Cls	Open	Volume
3:59pm · **14.09**	-0.11 (-0.77%)		14.20	14.10	189,806
Day's Range	Bid	Ask	P/E	Mkt Cap	Avg Vol
13.50 - 14.20	13.95	14.15	N/A	389.6M	418,090
52-wk Range	Bid Size	Ask Size	P/S	Div/Shr	Div Date
5.83 - 17.125	3,000	10,000	3.76	0.00	Mar 10
1y Target Est	EPS (ttm)	EPS Est	PEG	Yield	Ex-Div
17.50	0.00	2.12	N/A	N/A	

NYMEX



Splits: 27-Apr-93 [2:1]

Last Trade	Change		Prev Cls	Open	Volume
4:02pm · **30.09**	-0.13 (-0.43%)		30.22	30.22	236,300
Day's Range	Bid	Ask	P/E	Mkt Cap	Avg Vol
29.85 - 30.25	N/A	N/A	10.49	1.324B	475,954
52-wk Range	Bid Size	Ask Size	P/S	Div/Shr	Div Date
17.25 - 49.00	N/A	N/A	0.70	1.86	May 1
1y Target Est	EPS (ttm)	EPS Est	PEG	Yield	Ex-Div
27.33	2.88	2.49	2.18	6.15	Mar 27

Why Diversification is Necessary in Long Term Portfolio Planning

John Roberts[1] (Business)

I. Introduction

When planning out a long-term portfolio, in order to reduce risk one should keep a well-diversified portfolio. For example, the saying of putting all your eggs in one basket is just the opposite of this. Profit maximization and risk reduction are the main goals of most investors, even though some people may invest for other reasons. In order to accomplish this you need proper diversification and I plan to discuss throughout this paper the ideas behind diversification and long term planning and why the two together can lead to optimal portfolio performance.

II. The Reasoning Behind Diversification

Diversification is the idea of spreading assets out among different asset classes, such as stocks, bonds, money market instruments, and physical commodities (Gastineau 1992, 91). This can be taken one step further by even spreading them out over international boundaries within these categories. By spreading out assets over many different categories and industries one reduces the risk of instability within his/her portfolio. For example, imagine if you take two portfolios A and B. Portfolio A consists of two stocks in the car industry and portfolio B consist of one stock in the car industry and one in the airlines industry. Obviously, if the car industry is not doing well, neither will portfolio A. Portfolio B will still not do as well, but because it was diversified and uses more than one industry, the risk was reduced and the airline industry stock contained in Portfolio B will help balance the portfolio. That is why diversification is a key when investing.

III. Pro's and Con's of Diversification

The idea of diversification can have its positive and negative effects when dealing with investments. The good thing about diversification is that it allows one to reduce risk and still have room for profit at the same time. When a company or industry

[1] Research performed under the direction of Dr. Mary Lo Re (Business)

is having tough times and stock prices begin to fall, diversification serves as protection for investors (Sheimo 1999,343). If used properly one may not even notice the decline in a major industry because of the protection provided by spreading out your assets.

On the other hand, diversification does have its setbacks. First, if there is an overall market decline, diversification cannot help. If all stocks are performing poorly there is nothing that can help to fix a declining market. Next, when compared to selecting carefully for value, diversification may water down returns. When one spreads out his/her risk, they also may be spreading out their return. The idea of having one stock and praying for the big jump in stock price is risky and short-term thinking. The payoff may be much nicer if you have all your eggs in one basket, but the risk of losing everything is much greater if that price jump was a decline.

IV. Asset Allocation

Asset allocation is a commonly used technique in the investment of funds (Butrimovitz 1999,2). The International Encyclopedia of the Stock Market states that the term asset allocation is nothing more but dividing money and placing it into different types of investments (Sheimo 1999, 185). The basic principle behind this is that asset classes are nothing more than a group of securities that share a common ground. An example of this would be taking 35% of your money and placing it in the money market, taking 40% and placing it in fixed incomes such as bonds, and taking the remaining 25% and placing it in common shares. By dividing ones investments and placing them in different markets, one is providing him/herself with proper diversification also. Studies taken have come up with the following data to show the importance of asset allocation (Reilly, Norton 1999, 55). 85%-95% of overall investment returns come from the first and second decisions, which are the long-term allocation decisions (Reilly, Norton 1999, 55). This shows that with proper asset allocation in the beginning stages one may gain the majority of their returns. Another study was conducted to find out if asset allocation was any better than just "throwing darts" to pick out stocks. The study reported that through asset allocation one does produce better risk adjusted returns than if they were to just select any random set of investments (Butrimovitz 1999, 10).

To show how asset allocation can really work for ones portfolio, we will look at a period of time from Jan. 1988 to Dec. 2000. The table below shows the data that was collected at the Investor Index site. One would have earned on average an annual return of 13.83% per year and a standard deviation of 9.99 if their portfolio consisted of 60% in a broad U.S. equity index fund, and 40% in a broad U.S. bond index fund (Investor Index 2003, 1). Standard deviation measures the degree of uncertainty in a stock (Gallagher, Andrew 2000, 151). Now add in international equities, non-U.S. bonds, and commodities, three more asset classes into the picture. Ones portfolio return goes up to 14.57% while

the risk stays the same. By taking it one step further and dividing the international equities into European equities, Pacific equities, and Emerging Market equities, and by adding high yield U.S. bonds, one could have raised an average annual return to 14.64 %, while still taking on no more risk(Investor Index 2003, 1). Over time this asset allocation strategy generated a much larger return than the original two-asset portfolio while managing to keep the same amount of risk. This may not seem much now, but over time it could make a very big difference in ones portfolio. Also, by reallocating over time and adding in profits made, these numbers could change even more for the better.

Table 1: An Example of Asset Allocation

	Expected Return	Standard Deviation
2 Asset Portfolio	13.83	9.99
Adding I.E, Non-US Bonds and Commodities	14.57	9.99
Adding 3 different types of International Equity	14.64	9.99

V. Long Term Investment Planning

In order to perform the proper asset allocation one must understand what exactly a long-term investment plan is and how it will benefit. First, one has to look at the words long term. This refers to a plan length and most long-term plans are over 1 year in length. Some plans are for longer time periods but, to be on the same page we will use one year plus. Next, when thinking about asset allocation and planning, there is a four- step portfolio management process that should be modeled when trying to decide on the best investment decisions for oneself (Reily, Norton 1999,37).

The process starts by having the individual investor make a policy statement, which acts as a road map for all decision making. The investor's goals and objectives, constraints, and guidelines should all be mentioned in the policy statement. Being that different investors have different needs throughout their life, one should base his plan around his age, financial status, future plans, and needs (Reily, Norton 1999,37). When creating a financial plan (FP for short), one of the first things needed is insurance. The insurance is there for not only accidents and “just in case”, but it provides protection against uncertainty along with adding diversification to ones set of assets. No serious investment plan should be started without having the proper coverage of living expenses and any unexpected events (Reily, Norton 1999, 37). On top of having insurance to cover

the various reasons that our life needs (disability, car, home, health, etc.), one should also keep a cash reserve that is enough to cover any emergencies. This does not have to be money in the bank, but could be invested in liquid assets in case cash is needed quickly.

In making a policy statement, one must next look at in what stage of the investment life cycle is the investor in to help understand the type of individual they are dealing with and the decisions they will make (Reily, Norton 1999,38). A person in the Accumulation Phase is in his/her early to middle years and is more likely to take moderate to high-risk investments. They most likely have a heavy load of bills, from car payments to school loans, and want to accumulate assets to help build a solid ground for the rest of their life.

The Consolidation Phase frequently arises in the latter half of ones life when earnings exceed expenses. One is still thinking long term about their children's college bills and even retirement, but ones investments will not be as risky as in the accumulation phase because one does not want to put everything that he/she has earned into jeopardy (Reily, Norton 1999,38).

The Spending and Gifting stages are pretty much the same in that they both occur later in life, around the time of retirement. Living expenses should be paid for through employee pension plans, and most people are in to the preservation of their capitol. They may want to think about estate planning and possible inflation so they will have some riskier investments even though their overall portfolio will be more conservative than it was during the consolidation phase (Reily, Norton 1999,38).

Besides looking at the various stages of life for an investor, one should also take into account the personality type of the investor. Some researchers say that type of occupation influences the way one invests. Certain personality types tend to attract certain jobs, which in turn will affect the way a person may invest (Stalla 1990, 7). These personality types are broken down into two sections, passive and active investors.

Passive investors tend to be people who inherited or risk the capital of others. They did not earn the money and hence tend to have a low tolerance for risk. One can find this personality type in many occupations such as corporate executives, lawyers in large firms, medical and dental non-surgeons, politicians, bankers, and journalist (Stalla 1990, 7). Many middle and lower socioeconomic classes are passive investors. Passive investors usually make the best clients for financial advisors because they are risk adverse and prefer diversification. They, however, tend to be trend followers which could have a positive or negative effect (Stalla 1990, 7).

At the other end of the spectrum there are active investors. These are people who have a high tolerance for risk and want to play a major part in their financial destiny. These people have earned their own wealth and when they are not in control their risk levels drop (Stalla 1990, 7). Active investors are found in certain occupations also. They

include small business owners who have started their own business, medical and dental surgeons, independent lawyers, entrepreneurs, and self-employed advisors and non college graduates. Active investors play the role of a financial advisor themselves and tend to follow a focused strategy instead of a diversification strategy like passive investors (Stalla 1990, 7).

Another way to classify investors is by his/her personality type. This actually looks at the type of person the individual is. By knowing this one can further help to determine the risk level of the individual and break them up into one of the four groups (Stalla 1990, 7). The first type of personality looked at is the Adventurer class. People in this class are strong willed and tend to be entrepreneurial. They like to make their own investment decisions and have a high tolerance for risk. Also, they tend to concentrate their investments more instead of diversifying their portfolios. This class is one that financial advisors have difficulty working with unless they find a way to show the individual that a cavalier style is not the way one should run core portfolio (Stalla 1990, 7). Celebrities would be the next type of personality individuals can be classified in. They like action and tend to be fashion followers. This carries over to their investment decisions because many of the moves they make are trendy, meaning others do it so I should to. They make impulsive decisions, which is why a financial advisor is necessary to keep this type of individual away form making rash investments. They also tend to make easy prey for maximum turnover brokers.

The third personality type is called the Individualist (Stalla 1990, 8). These also are strong willed and confident people but they are not impulsive. They do their own research but make excellent prospects for financial advisors because they tend to be too busy with work to manage their assets. Once work is over and retirement sets in they get more involved with their assets and many times take the place of their financial advisors themselves (Stalla 1990, 8). The final type of personality would be the Guardians. This is the more conservative type of person who is not as confident in his or her own money management. They are very careful when it comes to choosing a financial advisor, but remain loyal to them as long as no radical changes occur. This type of personality is made up of people who haven't earned their money but received an inheritance or lump sum of money (Stalla 1990, 8).

There is one more way to help understand how much risk an individual can take when investing. By looking at ones goals, one can further assess the decision making of an individual because certain goals tend to drive ones investment decisions. Near-term high priority goals would include the purchase of a house or payments of college education. Such goals are very important (Stalla 1990, 8). They can be classified as emotional priorities and would attract investments in the safest securities. Long-term high priority goals such as having a comfortable retirement in 20 to 30 years can be obtained

over a longer time span (Stalla 1990, 8). This allows the investor to make more aggressive decisions because of the longer time frame and it is not as important as a house payment or college payment that must be made either immediately or shortly down the road. Lower priority goals are those that if one does not succeed at, it doesn't really matter. An example of this would be trying to invest to go on a cruise. It is not a necessity, so not achieving this would not end ones world. These goals normally are achieved by aggressive investments (Stalla 1990, 8).

Entrepreneurial Goals are the final group of goal levels that use a focus strategy to achieve the goal. A focus strategy would be investing all of ones stock in one company such as the firrn one may work at. No diversification is used in this strategy. Now that one knows the type of investor they are dealing with and can create their policy statement, one can move on to step two. This consists of being up-to-date on the market and its conditions, the world economy, and future trends in business. By knowing this information and combining it with his policy statement, the investor may go to stage three and implement his plan by constructing a portfolio.

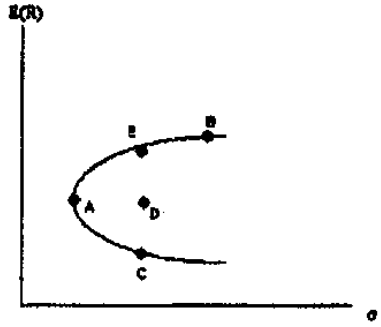
VI. Financial Planners

Many people who invest really don't have the knowledge to make an investment plan and construct a portfolio without a little guided help. CFP's or certified financial planners have the knowledge and background to assist one while they invest. The planners take a comprehensive, client-centered approach when planning, and believe they can really improve people's investment lives (Lee 2001, 2). It’s important when choosing a CFP that one knows the different types and what they offer (Lee 2001,3). Mark DiGiovanni states in the article, “What is financial planning anyway?” If someone asked five different CFP about an issue, one would probably get five different answers showing that not all CFP think exactly the same (Lee 2001,3). CFPs must go beyond minimum and find out exactly what clients want, what they need, and how they want it to happen (Dilberto, Anthony 2002, 1). They can give them advice, but what may seem right for the CFP may not be right for the individual, so they want to know as much about who they are working with as possible.

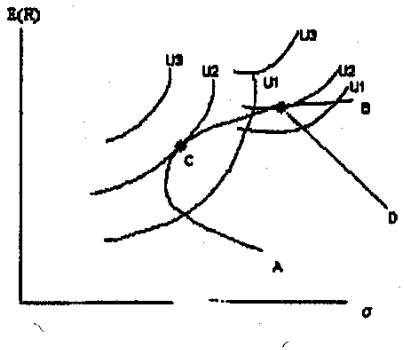
VII. Why Diversification is Necessary for Financial Planning

In creating an optimal portfolio, the most famous method used today would be the Markowitz Portfolio Theory. This theory states that high return dominates low return and low risk dominates high risk. Now the Markowitz theory does not just give one the set of stocks that are needed to make ones optimal portfolio, but it determines the best

combinations of assets for a given risk level or a given return level (Maosenzhog 2003, 2). The best combination for a given level is displayed on the efficient frontier.



The graph above is just an example that shows the efficient frontier as arc AB. A risk adverse investor wants to minimize risk as much as possible, so points A and E would be suitable for that type of investor. Point A represents the portfolio with the lowest possible risk on the efficient frontier (Maosenzhog 2003, 4).



Now this example also shows the efficient frontier but added in now are the individuals satisfaction (utility) levels which show if a person is more or less risk adverse. On the optimal portfolio set point C would be the risk adverse investor and point D represents an investor who would prefer a higher return.

VIII. Merrill Lynch's Strategies

Given the basic idea behind the Markowitz model, Merrill Lynch came up with a group of US private investor profiles, which gave a graduated risk/return tradeoff depending on investor preference (Merrill Lynch 2003, 2). The five profile types are: capitol preservation, income, income for growth, growth and aggressive growth. Table 2

shows Merrill Lynch's asset allocation percentages depending on the type of profile one would fall under.

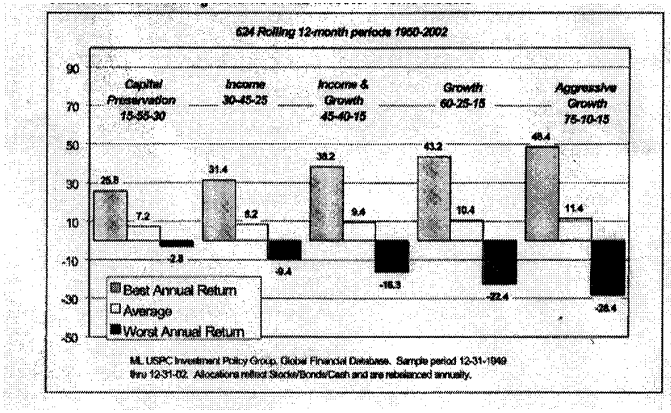
Table 2: Merrill Lynch US Investor Profiles-2003

	Asset Allocation %			
	US Stocks	International Stocks	Bonds	Cash
Capital Preservation	15	0	55	30
Income	25	5	45	25
Income & Growth	40	5	40	15
Growth	50	10	25	15
Aggressive Growth	65	10	10	15

Source: ML- GRIP℠, United States Private Client Investment Policy

Capital preservation refers to the risk adverse investor who wants a safe steady gain and accomplishes this by placing the majority of his or her investments in bonds and cash. The opposite of the five profile types would be the aggressive growth, which characterizes an investor placing the majority of his or her investments in stocks to get a larger return. The graph below shows that proper diversification of assets can lead to steady growth on one's portfolio. It is based on 52 years of market research which verify that stocks and bonds rarely both produce negative returns. In actuality it only happened 1.3% of the time during the period in question (Merrill Lynch 2003, 3). Also, it was reported that positive year on year returns happened 97% of the time for investment profile capital preservation and 80% of the time for aggressive growth (Merrill Lynch 2003, 3). The data above also shows that diversification of assets and proper asset allocation lead to building and preservation of capital and at the same time lower portfolio risk in all investor profiles.

Annual Rolling Returns of ML Investor Profile Models



Too much exposure to one specific stock can also be just as bad as improper asset allocation. Merrill Lynch ran a test where they selected the four largest stocks from each of the ten sectors of the S&P 500 (Merrill Lynch 2003, 13). By doing this, they created a portfolio of forty equities and listed the historical risk and return for each of them. The purpose of the experiment was to show that its not a good idea to have all of ones eggs in one basket, in other words they wanted to show the single security risk. Table 3 located at the end of this paper shows the forty equities, their risk, return, and stock price. Table 4 shows as the concentration of the stock increased how the Sharpe ratio compares to it. The Sharpe ratio, which was conceived by Nobel Laureate William Sharp, relates an investments return to its risk. It implies that the higher the Sharpe ratio is, the more an investor is compensated for per a given risk level. Out of the 40 stocks that were analyzed, only eight of them had a Sharpe ratio that increase as the concentration of the stock increased (Merrill Lynch 2003, 17). The other 32 stocks proved that a diversified portfolio is superior to a single stock portfolio.

IX. Conditions in the Bad Years

In times where our market is susceptible to other types of shocks in the world, such as the war in which we are experiencing right now, one would say that diversification could only be a positive for those who take their money and invest. A wide range of market strategist suggests that we be aware of the past lesson that wars are generally a bad thing for US equities (Rosenberg 2002, 2).

To show the shakiness of the market, I looked at three different sectors of the market and what people thought about each. Oil, defense, and consumer staples all though to be growth opportunities even showed instability which is why diversification is necessary, especially in times of need. Oil prices, now around $26 a barrel, was estimated that it could rise to about $40 a barrel before and during the war, driving up the stock of major companies (Rosenberg 2002, 2). A swift end to the war could send the price dropping just as fast though (Rosenberg 2002, 2). Defense is one of the more positive picks and is thought to climb from $334 billion in 2002 to $409 billion in 2005, a 7% annual growth rate (Rosenberg 2002, 2). Consumer staples were looked at and said to be a safety investment for wartime investors. The amount of toothpaste and soda sold will not change no matter what happens with the war (Rosenberg 2002, 3). As one can see, wartime investments call for diversification because of the instability of the market. Some products such as consumer staples may be on the rise, but many products such as oil may decline in the tougher times. Diversification helps one position him/herself so one will not do badly if either outcome happens, good or bad (Lehmann 2003, 1).

X. Conclusion

Diversification is the idea of spreading assets out among different asset classes, such as stocks, bonds, money market instruments, and physical commodities. When planning out a long-term portfolio, in order to reduce risk one should keep a well-diversified portfolio. Merrill Lynch summed it up with the statement out of their Investment Policy handout which stated that it is essential to adapt and maintain a well diversified exposure to the major asset classes relative to a client's risk tolerance, return expectations, and investment objective (17). They also state that no matter the financial technique used, as long a the resulting portfolio has proper diversification at all levels and the objectives of income generation or long-term growth are fulfilled, then whoever follows this has done a correct job (Merrill Lynch 200317). The benefits of diversification are well documented and reasonably understood, and holding a broad range of asset classes can lower overall portfolio risk and lead to more stable returns, which is a positive in long-term planning (Merrill Lynch 2003, 1). Besides learning the above stated, I also learned that holding a concentrated portfolio could lead one to smaller returns than compared to a diversified portfolio. Table 2 on the back shows us that the Sharpe ratio and annual returns were negative for the majority of the time on the concentrated portfolios. When the well-diversified 40 stock portfolio was analyzed, it (Sharp ratio and annual return) turned out positive. In conclusion, I feel that once a person figures out the stage of investing they are in, their personality and type, one can come up with a successful plan to create a well-diversified portfolio that would minimize risk along with collecting stable and steady returns.

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Table 3: Annualized Risk and Return Readings

Company	Annualized Risk*	Return	Ticker	QRQ	Price 1/16/03
Consumer Discretionary					
Wal*Mart Stores	36.68	20.27	WMT	A-1-7	50.30
Home Depot	43.95	4.40	HD	B-2-7	22.17
AOL Time Warner	71.83	18.32	AOL	C-2-9	15.30
Viacom (Cl. B)	45.73	13.65	VIA B	B-1-9	41.38
Consumer Staples					
Coca-Cola	32.66	-7.86	KO	A-1-7	45.67
Philip Morris	35.62	-2.38	MO	C-2-7	41.72
Procter & Gamble	31.31	1.02	PG	A-1-7	86.87
PepsiCo	29.04	3.70	PEP	B-2-7	43.73
Energy					
Exxon Mobil Corp	27.05	3.43	XOM	A-1-7	35.09
Royal Dutch Pete	28.58	-3.31	RD	A-1-7	44.41
ChevronTexaco	25.22	-2.05	CVX	A-1-7	68.32
Schlumberger	40.85	-8.76	SLB	Rvw	41.87
Financials					
Citigroup	43.88	7.13	C	B-1-7	37.11
Amer Intl Group	36.90	8.32	AIG	A-1-7	62.74
Bank of America	37.68	2.44	BAC	B-1-7	71.00
Wells Fargo	32.60	4.58	WFC	B-1-7	47.00
Consumer Staples					
Pfizer	36.47	3.48	PFE	A-1-7	29.95
Johnson&Johnson	26.51	10.87	JNJ	A-1-7	54.68
Merck & Co	33.69	1.18	MRK	A-2-7	58.85
Bristol Myers Sq	38.82	-12.72	BMY	C-2-7	24.87
Industrials					
Genl Electric	34.74	-0.34	GE	B-2-7	25.03
Tyco Intl	59.72	-5.55	TYC	C-1-7	18.20
3M Company	31.29	8.04	MMM	A-2-7	126.65
Boeing	37.49	-7.15	BA	B-1-7	33.48
Information Technology					
Microsoft Corp	43.82	9.50	MSFT	B-1-7	55.35
Intel Corp	54.29	-3.15	INTC	C-3-7	17.20
Intl Bus Machs	41.54	8.02	IBM	B-1-7	86.05
Cisco Systems	58.95	6.54	CSCO	C-2-9	14.90
Basic Materials					
DuPont	34.15	-6.37	DD	A-2-7	42.38
Alcoa	40.87	5.13	AA	B-2-7	22.12
Dow Chemical	35.88	-1.87	DOW	C-2-7	31.15
Intl Paper	37.30	-5.44	IP	Rvw	38.40
Telcom Services					
Verizon Comm.	32.11	-3.00	VZ	B-2-7	39.52
SBC Comm.	37.36	-5.62	SBC	B-2-7	27.85
Bellsouth	35.34	-1.15	BLS	B-2-7	25.95
AT&T Corp.	43.61	-14.10	T	B-1-7	26.47
Utilities					
Duke Energy	35.81	-6.35	DUK	C-3-8	18.08
El Paso Corp.	71.54	-26.28	EP	Rvw	9.77
Southern Company	26.28	13.20	SO	A-2-7	28.76
Exelon Corp.	32.45	16.87	EXC	B-1-7	54.26
Total	23.41	2.79			
S&P 500 Price Index	20.30	-1.65			

Source: Merrill Lynch USPC Investment Policy Group, Primark. *Standard deviation based on weekly price returns from December 31, 1997 through December 31, 2002.

Table 4: Concentrated Stock Portfolios: Risk & Return Characteristics

Sector	TKR	Weight	Risk	Return	Sharpe Ratio
Consumer Discretionary					
	WMT	25	24.58	7.92	0.26
		50	28.30	12.66	0.39
		75	32.56	16.71	0.46
	HD	25	26.73	3.17	0.06
		50	32.39	3.59	0.06
		75	38.33	4.00	0.06
	AOL	25	47.27	7.24	0.12
		50	59.64	11.44	0.17
		75	66.88	15.09	0.20
	VIAB	25	27.14	5.72	0.15
		50	33.17	8.63	0.21
		75	39.55	11.26	0.24
Consumer Staples					
	KO	25	21.86	0.71	-0.04
		50	21.39	-1.83	-0.16
		75	23.97	-4.65	-0.26
	MO	25	21.39	1.69	0.00
		50	21.00	0.40	-0.06
		75	24.44	-0.95	-0.10
	PG	25	21.43	2.39	0.04
		50	20.83	1.94	0.02
		75	23.45	1.48	0.00
	PEP	25	21.31	3.00	0.07
		50	20.84	3.23	0.08
		75	23.21	3.47	0.08
Energy					
	XOM	25	21.67	2.94	0.06
		50	21.28	3.10	0.07
		75	23.02	3.27	0.07
	RD	25	21.93	1.51	0.00
		50	21.49	0.00	-0.07
		75	23.34	-1.60	-0.14
	CVX	25	21.51	1.75	0.01
		50	20.51	0.55	-0.05
		75	21.50	-0.71	-0.11
	SLB	25	23.19	0.57	-0.04
		50	25.02	-2.16	-0.15
		75	30.29	-5.23	-0.23
Financials					
	C	25	26.33	3.86	0.09
		50	30.96	5.00	0.11
		75	36.81	6.09	0.12
	AIG	25	24.65	4.17	0.10
		50	27.80	5.63	0.14
		75	32.05	7.01	0.17
	BAC	25	23.93	2.71	0.05
		50	25.87	2.62	0.04
		75	29.95	2.53	0.03
	WFC	25	22.79	3.21	0.07
		50	23.65	3.68	0.09
		75	26.71	4.13	0.09
Healthcare					
	PFE	25	23.46	2.95	0.06
		50	25.90	3.13	0.06
		75	30.40	3.30	0.06
	JNJ	25	21.13	4.88	0.16
		50	20.59	7.03	0.26
		75	22.41	9.02	0.33
	MRK	25	22.53	2.43	0.04
		50	23.69	2.02	0.02
		75	27.41	1.60	0.00
	BMY	25	23.02	-0.01	-0.07
		50	24.91	-3.53	-0.21
		75	29.96	-7.67	-0.31
Industrials					
	GE	25	24.84	2.10	0.02
		50	27.44	1.31	-0.01
		75	30.82	0.50	-0.04
	TYC	25	27.48	1.10	-0.02
		50	35.45	-0.92	-0.07
		75	45.99	-3.13	-0.10
	MMM	25	22.43	4.10	0.11
		50	22.82	5.48	0.17
		75	25.49	6.79	0.20
	BA	25	22.56	0.82	-0.03
		50	23.58	-1.55	-0.13
		75	27.98	-4.19	-0.21
Information Technology					
	MSFT	25	26.16	4.50	0.11
		50	31.47	6.27	0.15
		75	37.56	7.94	0.17
	INTC	25	27.68	1.54	0.00
		50	35.50	0.07	-0.04
		75	44.57	-1.48	-0.07
	IBM	25	25.08	4.09	0.10
		50	29.53	5.47	0.13
		75	35.29	6.77	0.15
	CSCO	25	31.42	3.70	0.07
		50	41.27	4.69	0.07
		75	50.38	5.63	0.08
Basic Materials					
	DD	25	22.97	0.96	-0.03
		50	23.78	-1.25	-0.12
		75	26.88	-3.67	-0.20
	AA	25	24.21	3.35	0.07
		50	27.87	3.96	0.08
		75	33.62	4.55	0.09
	DOW	25	22.71	1.79	0.01
		50	23.71	0.63	-0.04
		75	27.69	-0.59	-0.08
	IP	25	23.00	1.12	-0.02
		50	24.26	-0.88	-0.10
		75	28.40	-3.05	-0.16
Telecomm Services					
	VZ	25	22.66	1.57	0.00
		50	23.37	0.13	-0.06
		75	26.34	-1.38	-0.11
	SBC	25	23.00	1.09	-0.02
		50	24.94	-0.95	-0.10
		75	29.70	-3.18	-0.16
	BLS	25	22.70	1.93	0.01
		50	24.65	0.95	-0.03
		75	29.08	-0.08	-0.06
	T	25	23.62	-0.19	-0.08
		50	25.70	-3.97	-0.22
		75	31.03	-8.47	-0.32
Utilities					
	DUK	25	22.46	0.96	-0.03
		50	23.80	-1.24	-0.12
		75	28.17	-3.66	-0.19
	EP	25	25.03	-1.37	-0.12
		50	31.27	-7.02	-0.28
		75	43.30	-14.51	-0.37
	SO	25	19.72	5.57	0.20
		50	17.95	8.36	0.38
		75	19.85	10.88	0.47
	EXC	25	20.93	6.75	0.25
		50	22.51	10.55	0.40
		75	26.83	13.89	0.46

	Risk	Return	Sharpe Ratio
Equal Weighted 40-Stock Portfolio*	23.41	2.79	0.05
S&P 500	20.30	-1.65	-0.16

The equal-weighted stock portfolio consists of 2.5% stock positions.

Source: Merrill Lynch Investment Policy Group. Risk is the annualized standard deviation of weekly price returns over the five year period ending December 31, 2002. Return is annualized over the same period. Sharpe ratio is defined as the annualized return less the risk free rate (12-month average 3M-Tbill = 1.18%) divided by the standard deviation.