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Find out more about Torch...visit our web site, www.torch.org.
From the President

Friends and Fellow Torchbearers

As I neared my 76th birthday (11-15-03), I felt mellower and more optimistic about the future of our country and of Torch.

To be sure, the news that the very first Torch Club — Minneapolis — has closed down, was discouraging. But then the news that a new club is incubating in Asheville, NC and another one is in process in Fredericksburg, VA was encouraging. And the Frederick, MD Torch Club celebrated its tenth season on December 15, 2003.

Our host for the 2004 Convention, the Wyoming Valley Torch, is looking at a growth spurt as Joe Smith, Region 2 Director, is back recruiting after recovering from an illness. The committee in Wyoming Valley is pressing on to make 2004 the best ever.

Some of our clubs report success in recruiting younger members. We had seven first time delegates in Chicago, most of them not showing any gray. If your club has this kind of success, contact Dave Smith, Membership Director, and share your methods with other clubs.

My optimism is based on observing my children, grandchildren, and their friends. These young people are bright, sensitive, and caring. They want to work in teaching careers or spend time in Africa helping the poor. They spend their summers working in legal clinics (for no pay), assisting refugees, entertaining in hospitals, assisting clinics for severely handicapped children, or reading to patients in nursing homes. I am sure you are witnessing the same activity in your area. There is a Super Generation coming to their fifties, and right behind them are more of the same in their teens and twenties.

If our generation of Torch members share their joy in Torch and invite them to join, the future of Torch is secure.

—THOMAS J. BIRD

A Few Words From the Editor’s Desk...

Recently, some of you may not have gotten the prompt responses that you (and we) like from the Torch office. The late, unlamented Isabel was responsible for that. She left our office flooded. I was afraid we might have to get the local Wetlands Board to give us an exception to start repairs. Some were without telephones or power for as much as ten days. Roads were blocked by fallen trees and other debris, and a tunnel which is a key component of the local transportation system flooded when the floodgates refused to close. As bad as it was here, people who fled to the safety of Richmond had it worse when the strongest part of the storm veered behind us and followed them up to

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A speaker at a Torch convention workshop — or maybe it was the Editor’s Breakfast — a few years ago urged us to develop more papers that tackled controversial subjects.

The man sitting next to me said nothing to the speaker or to the rest of the group. But he leaned over to me and, in a very loud whisper, said “Yeah, that’s what killed the Such-and-Such Club.”

I have long since forgotten the actual name of the club, but I do remember that a check of association records at that time revealed that it had, indeed, dissolved in the early 1970s.

Now, some Torch papers are bound to take positions about which there are differences of opinion. That is good. And some of those differences may arouse strong feelings. Good or bad, that is unavoidable. But should program chairs, in suggesting or assigning topics, court controversy?

I don’t think so. But we certainly shouldn’t strive to avoid it. I know of at least one club that bars presenters from choosing topics from within their own profession. I can see reasons for doing that, but the essence of Torch, for me, is the inter-professional dialogue and understanding it fosters.

And I think it is appropriate for that dialogue in these days to take note of the divisions of opinion that actions of President Bush and his administration have generated in this country. Opinion polls I have seen, as I write this, show the country split 50–50 on the questions of whether or not the President should continue in office. There is the same kind of division over our military action in Iraq.

This is more than a debate over election year choices. The Patriot Act, so-called, really appalls me. I hope more than one club will hear a thoughtful analysis of the constitutional issues involved.

I am sure there are economists, professional and otherwise, among our members who can evaluate what has been happening in this area. But there is likely to be someone at a meeting who takes issue with even the most carefully researched paper.

I certainly don’t recommend scheduling a two-speaker debate on any topic. The issues that have this nation in such a fever now probably can’t be adequately addressed in the short time span of a regular meeting.

The discussion period should be an adequate balance for any thoughtful presentation. But there can be problems. There is sometimes a tendency for a questioner who disagrees with the presenter to try to hold the floor until the speaker changes his or her position — in which case, the moderator must firmly insist it is time to move on.

But the issues which now divide the nation are so crucial, and the consequences of the mistaken policies are so dire, that an organization that professes the kind of goals we uphold must surely be able to address them in a way that will benefit the entire membership.

Paul Stanfield

Gold & Silver Torch Awards

At our annual convention, special Gold and Silver Torch Awards may be given to individual members for truly outstanding service, through nomination by their local clubs, submitted in advance through the Awards Chairman.

Gold Award

The Gold Torch Award honors members who have served Torch at the local, regional, and—most importantly—the International level. To qualify for this award, the nominee must have been a Torch member for at least 10 years. In any one year, the number of Gold Torch Awards may not exceed 1% (rounded to the nearest whole number) of the membership of the International Association of Torch Clubs (i.e., three awards for membership of 2,500 to 3,499).

Silver Award

The Silver Torch Award recognizes members who have served in an exemplary manner at the local club level. To qualify for the Silver Torch Award, the nominee must have been a member for at least 5 years. In a given year, the number of Silver Torch Awards nominees by a local club may not exceed one for each 25 members or portion thereof.

Nominations for both awards should be sent by March 31, 2004 to Wayne Davis, c/o IATC, 749 Boush Street, Norfolk, VA 23510-1517, with copies to your regional director.
Science Meets the UFO Enigma

There exists a phenomenon, or enigma, commonly referred to as UFOs, which is described and supported by a body of recorded, validated information drawn from thousands of reports, worldwide, of unidentified flying objects and related events for which there are no tenable explanations and which call for scientific explanation.

By Paul H. Joslin, Ph.D.

About the Author
Paul H. Joslin holds degrees from Cornell University, Sewanee, and the University of Rochester. He is Drake University Emeritus Professor of Science Education and has done research on teaching with analogies, glacial geography, post-glacial climates, and lake effect storms.

He is a Fellow of the AAAS, a Fulbright Laureate, and twice served as Visiting Scholar at Curtin University in Australia. He is the author of teaching guides, journal articles, research critiques, and film and book reviews in science education. He was the first Executive Secretary of the National Association for Research in Science Teaching and, as an international consultant, lectured in Israel, Russia, Taiwan, Mexico, and Australia.

He writes a column for Cornell University Magazine and continues to write doctoral dissertation critiques, and reviews of books and films in science education. With his wife, Erma, he enjoys reading, travel, and the activities of his 14 grandchildren.


Either we are alone in the universe or we are not. Either way, the answer has profound consequences for us humans.

Mention the topic of UFOs in polite company, and the response is dependably predictable; “Surely you don’t believe in UFOs! Especially a bright and rational guy like you.”

When this exchange takes place, I know with certainty that my questioner is uninformed about UFOs or, more precisely, about the UFO enigma. It should be logically clear that if there can be identified flying objects, there can be unidentified flying objects. The problem is one of shifting the unidentified into the category of identified.

It will also be obvious that the questioner is misusing the term UFO, using it to refer exclusively to extraterrestrial space vehicles. Of course, we cannot reject the possibility that some, or all, UFOs might be of extraterrestrial origin, but the enigma goes well beyond sightings.

The history of science is an astonishing record of, “It couldn’t be. But it is!” Fish bones on tops of mountains (fossils). Stones falling from the sky (meteorites). Moving continents (plate tectonics). The twentieth century brought major developments in critical areas of scientific knowledge such as particle physics, relativity, quantum mechanics, quasars and black holes, space travel and the sustained search for extraterrestrial life.

Enter a challenging enigma which appears to defy the laws and theories of physics as presently understood. Could the UFO phenomenon be in the category of, “It couldn’t be, but it is?”

It cannot be denied that there is a UFO enigma. The core of the UFO enigma consists of thousands of documented reports from all over the world made by well educated, highly intelligent, knowledgeable, experienced persons with sufficient scientific expertise and experience to enable them to make clear distinctions between those objects and events with, and those without, known causes. These reports represent at least nineteen categories of human experiences ranging from simple observations of strange lights to accounts of abductions by strange biological entities. These reports support an assertion that the UFO enigma can, and should, be the subject of serious scientific studies.

So what is a UFO? A UFO is, and should be, exactly that — an unidentified flying object. Unfortunately, because of intense public interest in space travel, and the possibility of life elsewhere in the universe, the term has come to refer almost exclusively to possible space vehicles of extraterrestrial origin, typically referred to as flying saucers. The topic has also become a domain of the occult. This is very unfortunate because even the most respected and secure of scientists risks much by even talking about the topic.

Of course, a strange object, especially one believed to be of extraterrestrial origin may, even after
very careful examination, have a high degree of strangeness and therefore have a high level of “unidentifiedness.” Thus, even if we could state positively that a given object was an extraterrestrial space ship, it would still raise all kinds of questions relating to its identity, origin, and purpose. Because we would know so little about it, we may still want to call it a UFO.

In common practice, UFO researchers use the term UFO primarily for daytime flying objects mostly of shapes such that they are called flying saucers, and of nighttime lights with behavioral characteristics similar to the daytime discs. However, the enigma goes well beyond simple sightings of objects and lights, and includes many categories of human experiences. Thus, the problem becomes one of defining UFOs in terms of these human experiences.

The best scientific explanations are based on repeated observations. We cannot repeat a given UFO type observation, but we can examine the repeated observations of similar objects and events and related UFO type experiences of the observers. Nor can we predict in advance when a UFO observation might be made so that we may be ready to record it accurately and precisely. Therefore, the UFO evidence will consist primarily of the reports together with any physical evidence collected in connection with the reports.

How can we define UFOs; that is, the reports of UFOs, such that we might begin to use the processes of science to analyze them systematically and logically? There are several possible definitions, but for our purposes here, we’ll use the one suggested by astronomer and UFO researchers, Dr. J. Allen Hynek: “The reported perception of an object or light seen in the sky or upon the land, the appearance, trajectory, and general dynamics and luminescent behavior of which do not suggest a logical conventional explanation and which is not only mystifying to the original percipients, but remains unidentified after close scrutiny of all available evidence by persons who are technically capable of making a common sense identification, if one is possible.”

A first problem will be that of selecting from the vast pool of reports those that best fit the definition. The best reports, the usable ones, will be from persons with observational training and experience: military and police officers, aircraft pilots, radar operators, engineers, astronomers, geologists, and other scientists. It is reports from such persons that constitute the core of the enigma available for scientific study.

These usable reports reveal a wide range of experiences from all over the world. They are quite consistent in their detail and can be classified into at least nineteen categories, which can only be described here briefly.

1. **Photographs.** There are thousands of photographs, but it is frustrating to find that most are unclear; the speed and unusual movements of the objects and the radiation they emit are suspected causes. However, there are many photos that are clear and can be accepted as evidence because they have passed rigorous photogrammatic testing. These reveal fascinating details.

2. **Radar images** that are correlated in space and time with reported visual sightings of UFOs are good evidence because radar operators are specially trained to identify flying objects.

3. **Shapes and sizes.** Flying saucer is a typical term and they are commonly reported as circular, elliptical, or disc-shaped. Sizes range widely from probes of half to one meter, to egg-shaped craft two to three meters, on up to objects with diameters of 30–100 meters (100 to 300 feet). Size and shape reports conform quite well to the standard statistical curve.

4. **Speed, acceleration, maneuverability.** Here the evidence is quite striking and, except for the competence of the witnesses, would be unbelievable. UFOs are reported to be able to move instantly, in any direction, and at fantastic speeds. These speeds and movements have been carefully and accurately recorded by aircraft pilots and radar operators.

For example, in a sighting over the Pacific, an aircraft chartered by US defense officials encountered three large craft estimated to be 2000 feet in length. The craft kept pace with the aircraft, then sped off at an estimated speed of 1200 miles per hour.

5. **Electromagnetic effects.** These are very common. Typically, a witness is in a car at night, and observes a UFO. The car’s electrical systems suddenly quit. When the UFO leaves the area, the electrical systems begin to function. Aircraft pilots report the same effects.

6. **Radiation effects.** One of the clearest examples is from the Mineral Club case. Scientists at the US Government’s White Sand laboratory in New Mexico recorded a correlation between unusual levels of radiation and simultaneous sightings of UFOs by them and others.

7. **Optical effects.** A witness reported three concentric rings around a cloud-like object in an otherwise cloudless sky. He was intrigued, and to get a better look removed his Polaroid sunglasses. The rings disappeared. It was hypothesized that the object created a magnetic field of sufficient strength to polarize light, suggesting a field of one million Gauss!

8. **Luminosity.** Lights of many different colors are reported, typically a radiant glowing around the observed object. In other cases, a light is all that is observed. Red is commonly reported for an object. Blue is commonly reported for an aurora around an object. Analyses of the reports point towards a possible propulsion system based on light emissions.

9. **Sounds** and 10. **Odors.** These are commonly reported, but insufficient patterns exist for good analyses.

11. **Lifting or floating effects.** These are commonly reported by abductees who report being floated aboard alien
Abductions. The best known case is of Betty and Barney Hill, whose story was made into a very popular film. Their story has stood against the most rigorous scrutiny.

For obvious reasons, the number of such experiences far exceeds the number of recorded reports. UFO investigators are continually surprised by the number of persons who will report UFO experiences once they find that the investigators are unprejudiced listeners. Studies of abductees reveal no evidence of mental illness or psychological aberrations, or of fabricating.

15. Landing traces. A researcher reported 923 cases of landings evidence and presented strong sequential connections between them and UFOs. The evidence is of burnt vegetation, soil moved into unique shapes, and residual radiation.

16. Recovered physical evidence is hard to come by, but in the last year there has been an increase in such evidence. Peter Sturrock, Professor of Space Science and Astrophysics at Stanford University, has published a book with a title similar to ours in which he describes and analyzes the gradually accumulating physical evidence for UFOs.

17. Crop circles are curious and entertaining. Most have occurred in the grain growing region of southern England. About 80% have been exposed as man made. But the remaining 20% are a real puzzle. One of the most curious cases occurred on a farm in nearby Minnesota. Their intricate and involved shapes are a real challenge to explain. Investigations of some of these reveal significant anomalies in the flattened plants; exploded nodes for example.

18. Effects on animals. It is reported that animals behave strangely before earthquakes. Similar effects are noted in the presence of UFOs.

19. Animal mutilations. As with crop circles, most are man made, typically the work of cultists. However, there remain many incidents that appear bizarre and unexplainable and connected in space and time with observed UFOs.

The verified reports reveal an amazing collection of unidentified objects, with the following characteristics commonly reported:
- Ovoid, saucer or cigar in shape
- Metallic, light-reflecting surface
- Exhibit a crown or enveloped in a white cloud-like vapor
- Exude a reddish to orangish glow
- Emit a bluish-white beam of light that can be used for lifting
- Ability to appear and disappear instantly
- Make no sound, or emit a faint buzzing sound
- Capable of fantastic speeds and rates of acceleration
- Ability to hover and to move suddenly in any direction
- Ability to create electromagnetic fields that affect electronic instruments

The accumulated data is vast, and all attempts at rational explanations using presently-known laws and theories of science, whether from physics and astronomy, or from medicine and psychology, have failed. With such evidence, why haven’t scientists taken up the challenge to find a cause or causes? Four factors appear to inhibit serious scientific studies of the UFO enigma.

First, there is the nature of the available data. These consist primarily or reports from persons taken completely by surprise by their UFO experiences. Their reports are, therefore, often incomplete, imprecise, and inaccurate. Such observations may represent observations of true UFOs. Or, they may represent ordinary objects or phenomena observed under unusual circumstances which, upon careful investigation, would prove to be IFOs (Identified Flying Objects) such as weather balloons, aircraft, orbiting satellites, and planets (frequently Venus), or light phenomenon such as search lights, lighthouse beacons, or ball lightning.

Second, the nature of the topic is such that it appeals to so-called new age cultists and various proponents of pseudoscience. Serious students, scientists in particular, risk ridicule, ostracism, and/or guilt by association, which only the most psychologically and professionally secure can withstand and rebuff.

Third, there is a serious problem with misuse of the term UFO. Its applicable meaning should be clear and unambiguous. Unfortunately, nearly all uninformed persons use the term UFO to refer exclusively to flying saucers,
usually thinking of them as extraterrestrial in nature and origin. This restricted use of the term causes all kinds of problems in a straightforward study of the enigma.

Finally, we hold that the topic has been prejudged as unworthy of serious scientific study by most in the scientific community, as well as by lay persons, largely due to the work of Dr. Edward Condon, who was employed by the government to supervise a study of the phenomenon with the particular goal of determining if it posed any sort of threat to national security.

He edited a report which came out in 1969 as a book, Scientific Study of Unidentified Flying Objects, and which became popularly known as the Condon Report. His summary of his study group’s conclusion was that, “Careful consideration of the record as it is available to us leads us to conclude that further extensive study of UFOs probably cannot be justified in the expectation that science will be advanced thereby.”

We can state with confidence that the work of Condon’s committee was not well done and his conclusion unjustified by the evidence. Thirty percent of the cases examined by his committee were unexplained! And, in spite of the overall conclusion he states in the book, “Defined in this was (as reports) there is no question as to the existence of UFOs because UFO reports exist in fairly large numbers and the stimuli for each report is, by this definition, an UFO. The problem becomes that of learning to recognize the various kinds of stimuli that give rise to UFO reports.”

Could UFOs really be IFOs? Could unidentified flying objects merely be objects which, upon closer examination, would be classified as identified and known objects? Well, no.

The highly respected Battelle Memorial Institute of Columbus, Ohio was asked by the Air Force to study some 4000 UFO reports in its files. The specific charge was to find whether those reports classified as Unidentified were the same as, or different from, those classified as Identified. For the analysis, 2199 usable reports were examined by six characteristics which included color, shape, number, duration of observation, speed, and light brightness. Using the common and respected Chi-square test of significant differences, they concluded that the probability of the Identifieds being the same as the Unidentifieds was less than one percent!

We are left with an enigma — how to explain the evidence for UFOs as perceived by those who have had direct sensory experiences with them. Scientific breakthroughs require courageous persons to challenge contemporary norms and to suggest dramatic revolutions in thought, process, and belief. Unfortunately, scientists are human and to break away from the known and the comfortable is not as easy as it may appear.

The position of astronomer Carl Sagan appears curious and ambiguous. He was convinced of the high probability of life, even intelligent life, elsewhere in the universe. But nowhere in his writings does he indicate that he had seriously studied available UFO evidence. He held the position that without hard physical evidence gathered by competent, reputable scientists, the topic could not be seriously pursued. A quote of his from our book is somewhat curious but also instructive: “I do not think the evidence is at all persuasive that unidentified flying objects are of extraterrestrial origin, nor do I think the evidence is convincing that no UFOs are of extraterrestrial origin.” We assert that this is where science ought to come into the picture.

Astronomer J. Allen Hynek, previously referred to, was one of the few brave scientists to study the enigma objectively. Hynek, after thirty years investigating the topic, came to the following conclusion: “Many of the frequently reported properties of the UFO phenomenon as reported from all over the world and by responsible and competitive persons, and those properties taken in combination, are different from the properties of those events, phenomena and objects generally referred to as explanations for the UFO phenomenon. The UFO phenomenon therefore ‘represents new empirical observations’ and thus by definition, does not fit into the present scientific paradigm.”

That and the following Hynek quote quite well summarize our position on the topic: “As a scientist I can form conclusions from and act upon only reliable scientific data. Such data are extremely scarce in the UFO field for reasons already pointed out: it has never been considered worthwhile to improve the data-gathering process because the whole subject has been prejudged. Even as a scientist, however, I am permitted a scientific hunch, and that hunch has told me for some time, despite the tremendous muddiness of the scientific waters in the area, the continued reporting from various parts of the world of unidentified flying objects, reports frequently made by people of high repute who would stand nothing whatever to gain from making such reports, that there is scientific pay dirt in the UFO phenomenon — probably extremely valuable pay dirt and that, therefore, a scientific effort of a much larger scale than any heretofore should be mounted for a frontal attack on this problem.”

Scientific studies require a statement of the problem that is as clear and unambiguous as possible. The problem statement must make it possible to plan and conduct observations, investigations, and experiments. The problem in question form may be stated as follows: What are the causes of those human experiences collected under the rubric of UFOs? In our book, we propose the following working hypotheses as tentative explanations for UFO experiences.

**UFOs can be explained as either misidentified or poorly understood natural objects or events**

Examples of such natural objects or
events would be ball lightning, balls of light (atmospheric plasma balls), stars and planets, orbiting satellites, auroras, ground-based lights reflected from clouds, aircraft jet contrails, unusual cloud formations, space rockets, and unidentified aircraft. This hypothesis takes the position that witnesses making a report simply lack the knowledge and experience to positively identify what they observe or experience.

**UFOs are mind events only; they do not represent anything physical or real**

This hypothesis suggests that what UFO witnesses report are the result of dreams, hallucinations, mental imaginings, or mental illnesses, including illnesses not yet adequately studied and understood.

While this is a popular hypothesis, it is gradually being discredited by research being done by psychiatrists. One such is Dr. John Mack, Professor of Psychiatry at Harvard Medical School. Over a three-year period, he conducted clinical interviews with 71 individuals who had reported abduction experiences. He concluded that the interviewees were reporting real experiences that could not be explained by any available concept from the fields of psychiatry or psychoanalysis.

In the preface to a book reporting on his studies of abductees, he states: “This book is not simply about UFOs or even alien abductions. It is about how this phenomenon, both traumatic and transformative, can expand our sense of ourselves and our understanding of reality, and awaken our mutual potential as explorers of a universe rich in mystery, meaning and intelligence.”

A subset of this hypothesis is that UFO reports are hoaxes. There are many such hoaxes, but they are quite easily exposed and deleted from the possible evidence.

**UFOs are extraterrestrial spacecraft operated by biological entities conducting earth surveillance**

This hypothesis takes the position that there is intelligent life elsewhere in the universe, and that UFOs may be manifestations of civilizations more technically advanced than we. This is a very popular hypothesis and is the one that most persons assume has been accepted by those who have had a UFO experience. This is unfortunate, because most of those reporting a UFO experience state that they have no explanations whatsoever.

**UFOs represent new empirical observations and possible evidence of dimensions other than space-time as currently understood by science**

This hypothesis suggests that those reporting UFO experiences have, somehow, observed, experienced, or otherwise accessed one or more dimensions beyond space-time as currently understood and thus not explainable by present-day scientific principles, laws, and theories.

**UFOs are secret spacecraft developed by the United States or other earth governments**

This hypothesis is supported by the fact that the U.S. government is known to be conducting secret research related to aeronautics and has also developed aircraft that when first observed would have fallen into the category of UFOs.

**UFOs represent phenomena about which the U.S. government has knowledge which, for undisclosed reasons, it is withholding from the public**

This hypothesis is related in one or more ways to all the others and is not, necessarily, by itself a potential explanation. If this hypothesis and the hypothesis above could be refuted, the task of checking the others would be simplified. It is true that the government has extensive files on the UFO enigma that it has classified as top secret. This is quite strange, given the official position that they pose no threat to national security or safety.

If there is a body of information so crucial that it must be kept secret, it is logical to conclude that such information would add immeasurably to the data base. Moreover, if the US government has knowledge that might explain the astonishing movements of observed UFOs, it is unlikely it would be kept secret. Rather, it would be employed in the NASA space program.

Which hypothesis do we think is the best of the six? My co-author is a bona-fide expert on the UFO enigma. He leans towards the extraterrestrial hypotheses. I lean towards the new empirical evidence hypothesis, which states that UFOs are evidence of dimensions of knowledge beyond space–time as currently understood.

However, it is possible to merge these two and to state that after years of monitoring an elusive quarry, it is our tentative conclusion that UFOs, using Dr. Hynek’s definition, “are not of this world.” They are either extraterrestrial in origin and/or they represent new and yet-to-be-understood scientific principles beyond space-time as currently known and understood.

We are left with three major conclusions:

- Given the overwhelming evidence, it is not possible to rationally and logically deny a UFO phenomenon or enigma. Nor is it possible to deny the existence of real UFOs.
- Either we are alone in the universe or we are not. Either way, the answer has profound consequences for us humans. Astronomers and other scientists, in spite of the lack of definitive evidence, are convinced we are not alone.
- Either we have full and complete scientific knowledge of the universe or we do not. All scientists believe the latter.

These three stark facts ought to compel the scientific community to take a serious look at the UFO enigma.

**References**

Hybrid Electric Vehicles and the Advantages of Improved Environment and Reduced Oil Imports

An owner’s report on hybrid electric vehicles

By Edward N. Clarke, Ph.D.

About the Author
Edward N. Clarke has an undergraduate degree in engineering from Brown University, two masters degrees in applied physics and engineering science from Harvard University, and a Ph.D. in physics from Brown. He served in the U.S. Navy during World War II. He is a founder of the U.S. semiconductor industry and, in particular, is co-founder of National Semiconductor Corporation (NSM-NYSE). He later served as a dean and director of research at Worcester Polytechnic Institute (WPI) in Worcester, Massachusetts, and retired as Professor Emeritus at age 70 some eight years ago. During those latter years, he led world-wide student projects concerned with the use of solar energy. This included the design, construction, and racing of road worthy solar powered racing cars. He has been a member of the Worcester Torch Club for 35 years, and has served as an officer of the club on several occasions.


Hybrid electric vehicles hold the promise of both reduced oil imports and improved environment. The fuel economy can be as much as double that of ordinary gasoline vehicles, and the toxic emissions can be reduced by as much as 90%. In addition, the greenhouse gas CO₂ is reduced in direct proportion to the fuel economy. This author has owned a Toyota Prius hybrid electric automobile for two-and-a-half years, having one of the first in Massachusetts. With my driving pattern and habits, this Prius averages in the range of 50+ miles per gallon of regular gasoline during the warm weather, and in the 40+ miles per gallon of regular reformulated gasoline during the cold winters in central Massachusetts. Most of my driving is on the secondary roads of hilly Central Massachusetts, some driving on high speed expressways, and very little driving in cities (the closest being the city of Worcester). Consumer Reports shows the Prius fuel economy to be about 52 miles per gallon in the city, and 48 miles per gallon on the highway. City is somewhat better than highway because the highly efficient electric motor is automatically used more frequently in stop-and-go city driving. This is just the opposite of the performance of the ordinary gasoline vehicle.

The hybrid electric vehicle has both an electric motor and a gasoline engine. Modern computer electronics and power electronics perform all of the quiet, seamless switching between those two driving sources. The Prius can be powered by the electric motor alone, by the gasoline engine alone, or by both electric motor and gasoline engine working together, with the main computer continuously making the optimum choices. But the electric motor always provides the initial forward acceleration and vehicle backup, and the gasoline engine is the main driving unit on the fast expressways. However, even on the fast expressways, the electric motor will provide torque for passing other vehicles at high speed. The Prius has a continuously variable transmission designed to accelerate from 0 to 105 miles per hour without any shifting! I normally drive on expressways at speeds of about 65 miles per hour, and have usually not exceeded 75 miles per hour (my personal choice), and I can easily pass any other vehicle at those speeds. Continuously variable transmission means just that, no shifting. So, one can accelerate from 0 or from any speed with total smoothness.

The Prius is extremely quiet, but on the steep hills surrounding the city of Worcester, I can certainly hear the gasoline engine working. The Prius is easy to drive. Hardly anything new need be learned to drive the car. However, through driving practice, I have allowed the vehicle to teach me how to obtain the highest efficiency. For example, on the nearby rolling hills of Central Massachusetts, I can travel several miles...
at any one time on the electric motor alone as long as I retain a vehicle speed of less than thirty miles per hour. When the gasoline engine is about to turn on automatically, I can back off my foot slightly from the gas pedal in order to retain just the electric motor. Electric motors have very high efficiencies (e.g., 95%), while gasoline engines have efficiencies in the range of 30%.

High fuel efficiencies are achieved with the hybrid electric Prius, as with other hybrid electrics by utilizing a smaller gasoline engine. And one “gets away” with using a smaller gasoline engine because high start-up acceleration is achieved with the powerful start-up torque of the electric motor. Torque is the rotational force needed to power the wheels of an automobile. Gasoline engines have low start-up torque, and generate more torque than needed at higher speeds. As a result, every ordinary gasoline car “carries around” an oversized, fuel wasting gasoline engine. The fast electronic power switching of the hybrid between the electric motor and the gasoline engine makes the use of a smaller gasoline engine feasible. The Prius has a small 70 HP gasoline engine and a 44 HP electric motor with a start-up torque five times more powerful than that of its gasoline engine.

The hybrid electric Prius is a five-passenger, four-door sedan weighing 2700 pounds. It has almost the same comfort as the popular Toyota Camry. The Prius achieves additional fuel efficiency through its electric motor automatically becoming an electric generator when the brake is applied and when the car is slowing down. The electric motor turned generator sends its electricity into an advanced power storage battery for later use. The electric motor is able to generate its own fuel (electricity)!! A gasoline engine cannot generate its own fuel, that’s for certain. The gasoline engine can only burn fuel. The power battery is an advanced nickel metal-hydride battery with about twice the efficiency of an ordinary lead acid battery. People often ask, how long will that power battery last? Toyota believes that the power battery will last the life of the car. However, the actual warranty is 8 years or 100,000 miles, whichever comes first. The battery is made from a large number of cells. The cells are continuously monitored by the computer of the Prius, and any weak cell would be quickly identified and could be replaced without replacing the entire battery. The power battery is tucked behind the rear seat (the rear part of the trunk) and is quite modest in size, weighing only 100 pounds.

While the car can run from its electric motor and power battery alone for a short while (perhaps only minutes), the main source of electricity is an electric generator run by the gasoline engine. This means that the Prius never has to be “plugged in” for charging. In fact, the car cannot be plugged in for charging. That has always been the most frequent question asked by inquisitive people. “How far can you go before having to charge it up?” The power battery is kept charged by the generator run by the gasoline engine, and by the electricity generated by the motor when the vehicle is slowing down. The latter is called regenerative braking, and takes the place of the lost energy with hot brake linings. The Prius does have standard brakes, but regenerative braking can save 30% of the energy of a moving vehicle and, hence, is an additional source of fuel efficiency. And, of course, brake linings are also given added life. A computer makes the decision of how much of the braking should be from the electric motor slowing down or from the regular brake system. My signal to the computer is the force and urgency with which I apply the brakes.

The gasoline engine automatically shuts off at stop lights. This also saves gasoline. Start-up with the green light is instant and powerful. Here again, the powerful torque of the electric motor comes first, but very quickly the gasoline engine comes into play because the high performing generator is now used as the starter motor for the gasoline engine. And the high voltage power battery (nearly 300 volts) is used as the starter battery for the starter motor. This is no pipsqueak 12-volt starter as in ordinary cars! The Prius has an advanced “inverter” with power semiconductors in order to convert (or invert) the direct current voltage of the battery to alternating current to run the advanced alternating current permanent magnet electric motor.

Not only is the Prius a fuel efficient vehicle, it is extremely low emission and is in the category Super Ultra Low Emission Vehicle (SULEV) with only the so-called pure electric vehicle in the Zero Emission category. But the pure electric vehicle has very short driving range before it must be recharged (600 miles for some; 100 miles for others). The range of a hybrid electric is determined by the size of the gasoline tank and the fuel efficiency. Toyota claims about 600 miles for the Prius. I would agree for warm weather, but 400–500 during cold weather. The Prius computer maintains control of the battery charge, never allowing the charge to drop too low, nor to become too high (which could damage the battery). Clean emissions are also achieved through the use of a remarkable catalytic converter which only allows emissions to exit the exhaust pipe when the catalytic converter is at proper operating temperature. A catalytic converter works properly only when it is hot. Thus, in ordinary cars, toxic gases are exiting the exhaust system during the first few minutes of driving. The Prius keeps the exhaust recirculating internally until the catalyst is hot! And finally, with respect to toxic emissions, the Toyota Prius has a flexible membrane gas tank (totally surrounded, of course, with a protective metal container), which shrinks as gasoline is consumed. Thus, there is no space for gasoline vapors to build up in the tank. When the gas cap is removed for See “Hybrid Vehicles,” page 32
Oligopoly in the Radio and Television Industry

A potentially serious problem for democracy.

By Charles W. Darling

About the Author

Charles W. Darling was born in Massachusetts. He graduated from Youngstown College with a B.S. in Education, and earned his M.A. in History at Ohio University. He did graduate work in history at Pennsylvania State University and Ohio State University, and was head of the Social Studies Department at Springfield Local High School from 1959 to 1966. He was an adjunct professor at Youngstown University from 1958 to 1966, and a Professor of History at Youngstown from 1966 to 1995, where he taught U.S. economic history, U.S. social and cultural subjects, U.S. folk music, and the Vietnam War. He is a professor emeritus of History, host of WYSU’s “Folk Festival,” 1969 to the present; heard Sundays on public radio from 8–9:30 p.m. He is the author of The New American Songster: Traditional Ballads and Songs of North America, University Press of America, 1983, 2nd ed., 1991; Gamma Connection, Pig Iron Press, 2000 (science fiction novel); and Galactic End Game, 2003, sequel to Gamma Connection.

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The late nineteenth century saw the rise of a group of American capitalists who have been labeled “robber barons.” Under their leadership, the railroad, sugar, steel, petroleum, and tobacco industries soon practiced horizontal integration, a method to limit competition by controlling production in an industry. Rockefeller’s Standard Oil Company controlled 90 percent of U.S. oil refining by the 1890s. Such a monopoly, and its cousin oligopoly, violates the spirit of the capitalist free market system. [Oligopoly means a condition in which a few firms control the output of goods and services.] Media oligopoly is not new. Hollywood film production has been controlled by six or seven studios since the 1930s. Between the 1960s and 1980s, newspaper consolidation left six major chains. Seven firms dominate book publishing, five dominate the music industry, six dominate cable TV. More recently, media firms have turned to vertical integration — an attempt to control the goods and services from production to distribution. How did the broadcast industry become oligopolistic? The history of radio and television’s rise reflects the shifts in governmental policy since World War I that created the monster.

The need for instant communication during World War I sparked the government’s interest in wireless radio. The government enjoyed a monopoly during the war, but once the war was over, private interests began to establish commercial broadcasting stations. Radio enthusiasts bought equipment worth millions of dollars. They listened on headphones, logging distant stations through the ever present static. By 1920, radio supply manufacturers began broadcasting programs to promote their products — the beginning of modern radio and TV sponsorships and commercials.

History books state that Westinghouse began the first regular radio broadcasts in Pittsburgh over KDKA. It aired the Harding-Cox presidential election returns in November 1920. Actually, other stations were on the air before with experimental broadcasts. In Youngstown, Ohio, contrary to local mythology, the first radio station was WMC, established by Wayne Shafer of the Columbia Radio Equipment Company, in 1922. It operated out of Shafer’s store at the northwest corner of Indianola and South Avenues on the city’s south side. Local histories credit Warren P. Williamson, Jr.’s WKBN as the first local station, but it did not begin broadcasts until 1926. Operating out of his parents’ home, Williamson shared the same frequency with Ohio State University’s WOSU, alternating time periods to prevent interference. Later, with wave lengths separated, WKBN leased studios in the downtown YMCA, and increased power to 5000 watts.

WKBN’s difficulties in finding a clear signal highlighted the need for air wave regulation. Without regulations, stations transmitted over any wavelength and with any power. Crosley’s Cincinnati station, WLW, increased its power to over 500,000 watts and literally obliterated the entire AM dials of all radios located within several miles of the transmitter. It was said a person could stand near the WLW transmitter, and a light bulb held in the hand would light! By 1927, the situation across the U.S. was intolerable. Stations jammed each other, creating chaos on the AM spectrum.

The competition of free market radio demanded reform. Secretary of Commerce Herbert Hoover said of radio in 1922, “It is inconceivable that we should allow so great a possibility for
Franklin Roosevelt signed the Communications Act of 1934, opposition to commercial broadcasting died down. William Paley, chief of CBS, announced in 1937 that “he who attacks the American system [of broadcasting] attacks democracy itself.” But the passage of the 1967 Public Broadcasting Act eventually gave non-commercial interests part of the FM spectrum and created the funding of public television. It made possible the Public Broadcasting System and National Public Radio.

Then in 1966, the Telecommunications Act removed restrictions on the number of stations owned by a company. The result was a decline in independent stations. By the end of 1999, two companies controlled one-third of the $15 billion annual radio revenue — Clear Channel Communications, with over 1200 stations, and Infinity (a division of Viacom-CBS). Oligopoly was challenging the free market system. That same year, the Youngstown market had 19 radio stations either owned or managed by two companies — Clear Channel and Connoisseur Communications (now Columbus Communications). Only three stations remained independent. In television, one company controlled two of the four commercial stations, while only one remained in the hands of local interests.

The infant television industry emerged in the 1920s and 1930s as a battle between inventor Philo Farnsworth and the head of the Radio Corporation of America, David Sarnoff. The power of RCA and its patents gave it a stranglehold on the fledgling industry, but others entered the field later, notably CBS under William Paley. In 1945, there were six TV stations in the country, 97 in 1950, 411 in 1955, and 530 by 1961.

Earlier, I referred to horizontal and vertical integration. Clear Channel is an example of horizontal integration, as is General Motors in car manufacturing, and especially since it divested itself from subassembly plants, such as Delphi. Ford Motor Company, on the other hand, is horizontally and vertically integrated. It still has steel mills and other processing plants. The media industry has been following in the automotive footsteps, more recently with vertical integration. Cross-promoting and cross-selling a program increases market potency — an important tool for the vertically integrated company. A motion picture produced by a media conglomerate can be promoted on its radio stations and the film used to spin off TV programs, books, CDs, merchandise, etc.

Today, there are nine media conglomerates — Time Warner, Disney, Rupert Murdoch’s News Corporation, Sony, Seagram, AT&T/Liberty Media, Bertelsmann, GE, and Viacom. In September 1999, Viacom announced its plan to add CBS to its roster for $37 billion. This concentration of media power is a threat to our country. In 1822, founding father James Madison said: “A popular government without popular information, or the means of acquiring it, is but a prologue to a farce or a tragedy, or perhaps both.” Unfortunately, all media treated the Viacom/CBS merger with kid gloves. Only a handful of newspapers reported the sinister side of the story, while popular news and business magazines kept quiet on the possible consequences. Only a few magazines with limited circulations had the courage to report the details. The story quickly died. My research was restricted to a handful of articles in magazines not generally found in The Reader's Guide or other reference material.

The regulators in the FCC and the antitrust division of the Justice Department were under pressure from the telecommunications and entertainment industry to look the other way. The regulators’ defense in allowing oligopoly is the Internet. With the Web, anyone can create a site at small cost and compete with the media giants. But as Robert McChesney notes, “this is nonsense.” He goes on: “after five years [the Internet] has not spawned a
competitive marketplace; the giants have too many advantages to be seriously challenged. They have the programming, the brand names, the advertisers, the promotional prowess, and the capital to rule the Internet.” McChesney, a professor at the University of Illinois, is the media’s watchdog. He has published several books on the subject, including Corporate Media and the Threat to Democracy and Our Media Not Theirs.

How far-reaching is media vertical integration? Time Warner is one example. It owns leading film companies: Warner Brothers, New Line Cinema, Hanna-Barbera, and Castle Rock. Its cable TV systems are the second largest in the U.S. (including Youngstown’s). Cable TV channels include: CNN, HBO, TBS, TNT, and TCM. In magazines, it owns Time, People, Sports Illustrated, and Fortune. It owns two publishing companies: Little Brown, and Warner Books. Music labels include Warner Brothers, Elektra, Atlantic, Sire, and Rhino. Even sports are owned by Time Warner: the Atlanta Braves, the Atlanta Hawks, and World Championship Wrestling. If the Internet is an impediment to Time Warner’s power, not to worry, for they own America On Line, although CEO Steve Chase is pondering spinning it off.

These oligopolies are a growing part of the commercialism foisted on children. These kids are markets in themselves. Children between four and twelve spent $2.4 billion in 197, triple that of a decade earlier. And television is the medium of choice. By age seven, the average American youngster spent 1400 hours and 20,000 commercials the average American youngster spent is the medium of choice. By age seven, that of a decade earlier. And television twelve spent $2.4 billion in 197, triple...
The Wright Brothers, Enthusiasts and Innovators

The 100th Anniversary of powered flight!

By W. Hewitt Phillips

About the Author

W. Hewitt Phillips was born in Port Sunlight, England, but came to the United States with his parents at the age of 2, where he became a naturalized citizen. After graduation from MIT with S.B. and S.M. degrees in Aeronautics, he came to work at the Langley Research Center of the National Advisory Committee for Aeronautics (NACA).

He has specialized in the fields of airplane stability, control, and handling qualities, flight simulation, and the design of control systems. He is author or co-author of over 60 technical reports and papers. The NACA became NASA, the National Aeronautics and Space Administration, in 1958. Phillips became Chief of the Space Mechanics Division and later Chief of the Flight Mechanics and Control Division. He participated in the solution of design problems in the Apollo and Shuttle projects. Phillips retired from federal service in 1979, but continued in a consulting capacity with the Langley Research Center, with the title of Distinguished Research Associate (DRA).

Phillips has had a life-long hobby of model airplanes, an activity that contributed to his interest in historical aviation and in the broad aspects of aeronautical science. He was presented the President’s Award for Distinguished Federal Civilian Service in 1979.

The 100th anniversary of the Wright Brothers’ first flight was December 17, 2003. This is, therefore, a good time to renew our knowledge of the Wright Brothers and their work. The remarkable development program conducted by the Wrights, culminating in the first successful manned flight, has been the subject over the years of many books. More recently, the influence of their characters and personal lives on the invention and later on the development of aviation has been studied extensively. This article summarizes both of these aspects of the Wright Brothers’ careers.

The Wright Brothers’ family consisted of the father, Milton Wright, a bishop in the Church of the United Brethren in Christ; his wife, Susan; and seven children, including a pair of twins, a boy and a girl, who died in infancy. Wilbur, the third son, was born in 1867. Orville was born in 1871. The last child, and only daughter, Katherine, was born in 1874. Milton believed and taught his family that the world was full of devils, that many people had evil intentions, and that the only source of safety and protection was within the family circle. This belief was strongly ingrained in the Wright Brothers, and had a profound effect on their later dealings in the aviation business. A schism arose in their church, a condition that caused the bishop to take part in much litigation. Wilbur was old enough to help his father in some of these cases, which gave him much knowledge of legal matters that he later used in lawsuits concerning the Wrights’ patents on the airplane.

Wilbur and Orville attended the local high school. Wilbur, being the older, was educated first. He was a brilliant student, maintaining a curriculum of about seven courses, including Latin and Greek. Such a curriculum would amaze modern high school students. Wilbur was the smartest in the family and he planned, after graduating, to attend Yale University. Six weeks before the end of school, however, in 1886, an accident occurred that would change his life. While he was playing hockey with some fellow students, a hockey stick came flying through the air and struck Wilbur in the head, knocking him unconscious. He appeared to recover, but a few weeks later it was evident that the injury was more serious than first thought. He entered a period of severe depression, and was unable to concentrate. He never received his high school diploma, and as a result was unable to attend Yale. If he had gone to Yale, he would have probably studied to become a teacher, lawyer, or minister, and as a result might never have thought of inventing the airplane.

After the accident, Wilbur remained at home, caring for his mother, who was sick with tuberculosis. He also read many books in his father’s extensive library. This activity gave him a liberal education, probably as good as he would have received in college. After three years, his mother died, and Orville decided that something had to be done to snap Wilbur out of his depression.

When Orville got into high school, he was not interested in receiving a diploma, because he had become very
interested in going into the printing business. Orville had already made himself a printing press, using such materials as a broken gravestone and metal parts salvaged from the local junkyard. He printed a small newspaper that became popular in his neighborhood, and was later widely distributed in Dayton. After improving his skills, he acquired an improved printing press and established a small printing business with a friend. His hopes of reviving Wilbur succeeded. Four years after his accident, Wilbur recovered his confidence and acted as editor of the newspaper, while Orville handled the problems of distribution.

The newspaper was successful for a while, but competition from larger newspapers contributed to its ceasing publication in 1892. The bicycle was becoming a national craze at that time, and Wilbur and Orville, with their mechanical skills, were much in demand to repair bicycles. Soon they established a bicycle sales and repair shop, which became very successful. The Wrights became familiar with all the popular makes of bicycles, and decided to build bicycles themselves, using the best features of various makes. In this period, they set up a machine shop and hired Charley Taylor as a machinist. He was an excellent worker, and stayed with the Wright Brothers through all their aeronautical developments. The bicycle business brought in a profit of about $2000 to $3000 a year, of which enough was saved to finance their later aeronautical experiments.

Before the end of the century, the bicycle craze had passed, automobiles were coming in, and the Wright’s business went into a slump. Wilbur, who by then was bored with the business, thought: “Here I am 30 years old, I know I am pretty smart, and I have never accomplished anything really worthwhile. What could I do to become rich and famous?” Wilbur and Orville discussed this subject for about six months. They concluded that a suitable endeavor would be to build a successful manned flying machine.

The Wrights had previously had a strong interest in flight. Their father had given them a pair of Alphonse Penaud’s rubber-powered helicopter models when they were children, with which they were impressed enough to attempt to build larger versions. Now they sought to learn everything they could about the subject. They wrote to the Smithsonian, from which they obtained references to all the important books that had been written on previous experiments, and they obtained from the Weather Bureau a recommendation for several places that would be suitable to conduct experiments. The Wright’s were particularly attracted to Kitty Hawk, NC because of its strong, steady winds, large open areas, and distance from inhabited regions. The Wrights also established a regular correspondence with Octave Chanute, a Frenchman who had become a well-known builder of railroads and bridges in the United States, and who had earlier made hang-gliding experiments.

The Brothers had gained experience of building light structures in their bicycle business and they were familiar with internal combustion engines. They knew, however, that Lileanthal in Germany and Pilcher in England had been killed in flying hang gliders that used shifting of the body weight as a means of control. The Wrights believed that some means of aerodynamic control by means of movable surfaces would be needed for satisfactory control. One day, Wilbur cut out the ends from a long, narrow box and found that if he squeezed one end of the box to a diamond shape, and squeezed the other end to a diamond shape in the opposite direction, the box would twist. He immediately conceived the idea of running a system of cables from the pilot’s controller to the wing tips to provide this type of distortion of the tips. He built a biplane kite of about five foot wing span, with kite strings running to handles in the flier’s hands on either side that would reflect the tips in this way.

The kite was flown on just one day, for a three hour period, but it clearly demonstrated that this method would work for lateral control of the kite. This ingenious idea inspired the brothers immediately to design a glider to be tested at Kitty Hawk.

The Wright Brothers went to Kitty Hawk, NC in the summer of 1900, where they were warmly received by the family of the head of the life-saving station, Mr. Thomas Tate. They assembled a biplane glider of 17 foot wingspan, four foot chord (the distance between the leading edge and trailing edge of the wing), with a canard control surface (that is, a movable surface ahead of the wing) for longitudinal control, and means for operating the wing-warping with a rudder bar moved by the pilot’s feet. The pilot flew the glider in a prone position, resting on the lower wing. The glider was designed in accordance with data compiled by Lileanthal and was expected to carry the weight of a man in a wind of 16 miles per hour. Wilbur, who did all the flying this year, proceeded very cautiously, first flying the vehicle as a kite with various loads of ballast, and making measurements to measure lift (upward force) and drag (rearward force) at various wind velocities. He found that the glider was too small to carry a man in a wind of 16 miles per hour, and that a wind of 25 miles per hour would be required to support his weight. The kite experiments concluded with the son of Mr. Tate, who weighed 70 pounds, getting a ride on the glider as it was being flown as a kite.

Wilbur then devised a new method to make the experiments. While Wilbur took the pilot’s location in a prone position, two men would lift the glider by the wing tips and run with it into the wind. Then Wilbur took control and flew the glider down the slope of the dune, keeping a low altitude of less than five feet above the sand. At first, Wilbur practiced with the longitudinal control. At the low altitude of the tests, the glider appeared to bank and turn in the desired direction. The Wright Brothers returned
to Dayton after a month at Kitty Hawk, feeling that they had succeeded in developing a satisfactory method of control.

The next year they returned to Kitty Hawk and assembled a larger glider, with almost twice the wing area of the first one. The wing chord was increased in greater proportion than the span, resulting in what is known as a lower aspect ratio. Also, the wing camber (the curvature in the flight direction) was increased. When Wilbur attempted a flight, the glider immediately dove into the sand despite full upward control with the canard surface. Evidently, the more highly cambered wing with increased chord gave too large a pitching moment in the nose direction to be offset by the canard. To correct this problem, a set of struts was installed between the wings along their center lines, connected with wires to various points on the wings to pull the camber out of the wing. The wings then had a somewhat drooped leading edge but were flat beyond that point. This change solved the diving problem. The Wrights were disappointed to find, however, that the glider required just as much wind velocity to fly as had the 1902 glider, and its gliding angle was steeper, resulting in shorter flights.

Wilbur now tried turning flight at a higher altitude. When a turn was attempted, say to the left, the glider would first respond in the correct direction, but the right wing, twisted to produce increased lift, would have more drag and would cause the right wing to slow down, whereas the left wing, with less drag, would speed up. The increased speed of the left wing would cause it to have more lift, so that the glider would turn to the right, and the right wing tip would come down in the sand, causing the glider to spin around to the right. Wilbur called this phenomenon, “well digging.” Today, we call this effect “adverse aileron yaw.” The Wright Brothers were now very discouraged. Their new glider did not fly in lower wind velocities as expected. It was less efficient than the 1900 glider, and their lateral control system using wing warping did not work as expected. They did not know the reasons for any of these problems. Wilbur said, “Man will not fly for a thousand years.” When they returned to Dayton, they received an encouraging letter from Octave Chanute requesting Wilbur to give a talk to the Western Society of Engineers, of which Chanute was president, to tell of their work. This letter caused him to start thinking about what research should be done to design a better glider. The talk presented by Wilbur, that was recorded by a secretary, is an outstanding example of how to plan and conduct a research program in a new field of engineering.

The Brothers started immediately in their shop in Dayton to carry out the programs outlined in the talk. After some preliminary experiments using models mounted on a bicycle wheel, they built a wind tunnel. The tunnel was 16 inches square in cross section, 5 feet long, and was powered by a 16 inch diameter fan driven at 4000 revolutions per minute by a belt drive from the power system in the machine shop. They built two balances, one to measure lift, and one to measure the ratio of lift to drag. During the winter of 1902, they made more than 6000 measurements, covering wings with different values of span, aspect ratio, and airfoil section, and including monoplanes, biplanes, and triplanes at angles of attack throughout the whole range of interest. They carefully tabulated all these results and determined methods for predicting the lift of wings as a function of airspeed. With this supply of information, they felt that they were in a position to design an improved glider.

The Brothers returned to Kitty Hawk in the summer of 1902 with materials for their new glider. It had a span of 22 feet, an aspect ratio of about 6, and a smoothly curved airfoil section. The glider was an immediate success. It flew in lighter winds and made much longer glides than either of their previous gliders. They equipped the glider with a fixed vertical rudder aft of the wings. This rudder held the glider in a turn, but if an attempt was made to recover from the turn, the air hitting the side of the rudder kept the glider in a turn despite reversal of the wing warping. Today, we call this phenomenon “spiral instability.” Orville suggested adding a third controller to allow the pilot to control the rudder as desired, a system used on most modern airplanes. Installing a third controller, however, proved inconvenient with the pilot in a prone position. Wilbur proposed controlling the rudder with wires connected directly to the wing warping system, so the rudder would aid both an entry into a turn and a recovery from a turn. This method was tried and proved to be an instant success. At this point, Orville also learned to fly the glider.

The Brothers now had accomplished all the goals they sought in their development program. They were able to predict the performance of their glider and had good control about all axes. They made over 600 glides that summer. They had no reservations about flying at altitudes up to 50 feet and made glides of 500 to 600 feet in winds between 15 and 30 miles per hour. They felt they were now ready to build a powered machine.

In the three days before returning to Dayton, they made 250 glides, all for fun and sport. What enthusiasm! They no doubt had the help of their friends at the life-saving station, but carrying a 165 pound glider up a 100 foot high sand dune in soft sand is a tiring job for two men, even if done only once.

During 1903, the Brothers designed the man-carrying airplane, including a four-cylinder 8-horsepower gasoline motor. The airplane was constructed at their shed near the dunes. The 1902 glider was also repaired and put in flying condition. It was not until November that the airplane, called the Wright Flyer, was completed. The Flyer had a 44 foot span and weighed, with motor, about 600 pounds. It again used a prone pilot,
placed alongside the motor that drove two pusher propellers through link chains similar to bicycle chains, but much more sturdy. In the first ground test with the motor running, one of the shafts driving a pusher propeller sheared off. Wilbur requested Charlie Taylor to build two new shafts of the same design, but made of hardened steel. The new shafts arrived in December and proved satisfactory. The first attempt at a flight was made by Wilbur on December 14, 1903. There was very little wind that day. A launching rail was placed on the downward slope near the bottom of a dune, in hopes that the airplane would gain enough speed to fly. When the Flyer reached the end of the rail, Wilbur pulled the stick for upward control. The Flyer nosed up and flew briefly, but then stalled and came down in the sand, crashing a few of the sticks that supported the canard surface. The damage was repaired during the following week, and it was Orville’s turn to fly on December 17. That day there was a strong northeast wind of 25–30 miles per hour. The launching rail was set up on the level sand at the base of the dune. The airplane took off rapidly, but oscillated up and down as Orville moved the stick back and forward in an effort to damp out the oscillations. After a brief flight, the Flyer touched the sand at the bottom of an oscillation and the flight was ended. The flight lasted 12 seconds and covered 120 feet over the sand. The Brothers knew then that they had succeeded in making an airplane that would take off and fly under its own power and land at a point as high as the launch point.

While the Brothers were considering making a longer flight, a gust of wind caught the machine and rolled it over and over. John F. Daniels, a member of the life-saving station, jumped into the wing and tried to hold it down, but to no avail. The airplane was completely wrecked. Even the engine crankcase was cracked open. They knew then that flying for that year was ended.

In 1904, the Wright Brothers set up their operations in Huffman Prairie, a large field near their home in Dayton and now part of the Wright-Patterson Air Force Base. They developed a launching device consisting of a tower about 40 feet high upon which a heavy weight could be hoisted. When the weight was released, it pulled a cable that passed around pulleys and pulled on the front of the airplane to bring it up to flying speed. This device avoided their reliance on strong winds. They built a new airplane similar to the Wright Flyer, but with somewhat heavier construction and using a 16 horsepower motor. The pilot was placed in a seated position and the controls suitably modified. Most of the research that year was to study the problem of “undulations.” They found that the addition of weights ahead of the wing made the airplane easier to control. By the end of the year, they had made complete circling flights in the field and had stayed up for several minutes.

Though a street car line carrying passengers ran alongside the field, no newspaper reporters ever came to witness the experiments. A man who raised bees and published a newsletter on beekeeping was among the street car passengers, and he was very impressed with the flights that he saw. As a result, the first published account of the successful flights of the Wright Brothers appeared in the Bee-Keepers Journal.

The 1904 airplane was not considered completely satisfactory because with the weight added to the nose, the canard control did not provide sufficient nose-up control, and the airplane was slow to pull out of a banked turn. A new airplane, called the Model A, was built for tests in 1905. This airplane had a 30 horsepower motor, and the longitudinal members were extended so that the canard surface was further ahead of the wing. Provision was made for carrying a passenger, and the controls were modified so that either flyer could operate the controls. To hold the nose up in a steep turn, small vertical surfaces, called “blinders” were added between the surfaces of the canard tail. This design cured the problems that had been encountered previously. Flights of three complete circles were made, and the airplane was flown a distance of 20 miles. At this point, the Brothers considered that the airplane was ready to be introduced to potential users.

A letter was sent to the Army Air Corps requesting a contract to build an airplane and containing detailed specifications on the performance that would be provided. The Air Corps replied that they would consider letting a contract providing that the Wrights would demonstrate the ability of the airplane to fly. The Wright Brothers refused this request. They believed that if the Army saw the airplane fly before they had a contract, their secrets would be stolen. The Wrights were in no hurry. Wilbur, in a rare miscalculation, said he thought that no one would build an airplane as good as theirs for thirty years. The Wrights did no more flying and made no more negotiations for two years. One thing they did was to take out a very broad patent on their invention. The patent was so comprehensive that no one could have built a successful airplane without infringing on it.

Octave Chanute, however, was not as secretive as the Wrights. He informed his friends in France of the
As each new President takes the oath of office, he approaches his new position with ideas and ideals. 

In order for him to be effective in meeting his goals (as well as others’ expectations of him), he must be able to persuade others (Congress, other administration officials, representatives from other countries) to work with him; he must be effective in his leadership toward those goals. What factors can a President bring to his new job that will make him an effective leader?

According to Neustadt, power in a presidential sense is influence, and the question in regards to presidential power is, what can the President accomplish to improve the prospect that he will have influence when he wants it?

A President’s power is based in part on how well he persuades others. To persuade others, the President must “… induce them to believe that what he wants of them is what their own appraisal of their own responsibilities requires them to do in their interest, not his.” The main group that the President needs to persuade is made up of the men and women who would actually do what he wants done: Congress, administration officials, governors, military commanders, foreign diplomats, etc. With these people, the President must build a professional reputation, which is based on his choices, on the pattern of the things he says and does. Neustadt wrote that “the men he would persuade must be convinced in their own minds that he has the skill and will enough to use his advantages” to do what he wants. “Their judgment of him is a factor in his influence with them.” Direct persuasion of this group is also addressed by David Gergen in his book, Eyewitness to Power: The Essence of Leadership. Gergen wrote that the President has six different institutional
forces with whom he must work: the public, Congress, the press, foreign powers, interest groups, and the domestic elite.

Lyndon Johnson is one example of a President who had exceptional skill in this area. His political skills and his ability to persuade the power brokers, including Congress, are legendary. He was able to use his skills of persuasion to institute his massive domestic program. On the other extreme is Jimmy Carter. Prior to taking office, Carter met with House Speaker Thomas O’Neill. O’Neill offered to advise him on congressional relations, but Carter refused the offer, explaining later that he had overcome opposition from lawmakers in Georgia by taking his case to the people. This is just one example of Carter’s mounting problems with Congress. Frictions between Carter and Congress grew through his apparent lack of sensitivity to Congressmen’s own objectives and goals, including those of his own party. He set up their expectations and support on measures and then dropped them; he flooded them with legislative proposals, and he attempted to pass through Congress his energy proposals without Congressional consultation. Needless to say, Carter found himself without much support on Capitol Hill.

In addition to his professional reputation, a President must rely on his public prestige. This is judged by the same individuals, but is based on a different factor. When judging a President’s professional reputation and whether or not they should go along with his wishes, the power brokers are anticipating the actions and reactions of the President. When they are judging his public prestige, they are anticipating the reactions from the public based on the President’s actions. The President’s “...prestige turns on what the members of his public think they want and think they get. He affects their thoughts by what he does,” by the choices he makes. The importance of a President’s ability to persuade the public was echoed by David Gergen. Gergen points out that with the advent of television, a President’s ability to appeal to and directly influence the public has been enhanced, making it an important tool.

The need for a President to persuade the public is a relatively new phenomenon. Until the advent of radio and then television, the President primarily needed to concern himself with Congress and the other powerful entities in government. Kennedy’s eloquence and intelligence in speaking and Reagan’s professionalism and experience with the camera made them two of the most adept Presidents in this arena. Once again, Carter appears to have started well in this area but slipped quickly. He began to read his speeches in “… an uninflected voice, barely moving his lips, and pausing at inappropriate points.” Nixon also spoke in a “strained and stilted” manner, but improved during his Presidency through hard work and practice.

Related to and intertwined with his ability to persuade others, whether the individuals are public or private, is the President’s ability to effectively convey his messages. Fred I. Greenstein, in his book, The Presidential Difference: Leadership Style from FDR to Clinton, wrote that “for an office that places so great a premium on the presidential pulpit, the modern presidency has been surprisingly lacking in effective public communicators.”

Kennedy, Roosevelt, Lincoln, Reagan, and Clinton are exceptions and were all extraordinarily skilled at conveying their message. Although there were many great communicators from early in the existence of the Presidency, the advent of radio and then television changed the way in which the President conveys his message to others. Ford was not very adept as a public speaker and he was verbally “accident prone.” Carter also lacked finesse in this area, delivering his speeches in such a manner as to prevent him from effectively getting his message across.

In his aforementioned book, David Gergen outlined several factors that he saw as “keys to responsible and effective leadership in the White House.” One of those keys is that the President must have a central, compelling purpose, which must be consistent with the core values of the country.

Lincoln set out to save the Union. Although his decisions received some criticism, the majority of the people were behind him and supported his vision. Franklin Roosevelt wanted to end the depression and later to win the war. These goals were also consistent with the will of the people. These are clear illustrations of men who had a compelling purpose that was consistent with the values of the country. Despite any possible merits that it might have had, Clinton’s ideas regarding changes in the health care system failed, in part, because it did not match the values of the country.

A quick start, a well-run transition to office from the campaign, and selecting good advisors were also outlined by Gergen as important in an effective Presidency.

“Power tends to evaporate quickly” after a President takes office, making a quick start and a good transition very important. Franklin Roosevelt, who started his term “… with vivid demonstrations of tenacity and skill in every sphere ...” is an example of success in these areas, while Carter’s term started with squandered time, warfare at staff levels, and problems with his staff adjusting to their new roles.

Regarding the importance of good advisors, in preparing one of his yearly annual messages, Washington sought information and input from Madison, Jefferson, and Alexander Hamilton. Half a century later, Lincoln compiled a team of advisors that, although they had interpersonal problems, carried the country through its largest crisis. Throughout the existence of our country and the Presidency, there have been a number of presidential advisors who have caused some controversy and
created problems for the President. One example is Bert Lance, Carter’s friend and Budget Director, who was involved in shady banking practices in Georgia and who caused the President embarrassment. However, there are no clear examples of Presidents who have chosen primarily or exclusively poor advisors. There are examples of Presidents who did not utilize the strengths of their advisors or who created an environment in which their advice would not be readily received. For example, Lyndon Johnson created an environment in which his advisors believed him to be the “master politician” and they “rank amateurs,” which led to some of his poor decisions regarding the war in Vietnam.

Gergen also wrote that a President’s character and personality have an impact on his central mission in office, the choices he makes, and the men and women around him. The idea that a President’s personality and character have an impact on his performance was expounded upon by James David Barber in his book, *The Presidential Character: Predicting Performance in the White House*. Barber divided Presidential character into four types based on two baselines. The first baseline is activity vs. passivity, measuring how much energy a President invests in his Presidency. The second baseline, positive vs. negative affect, measures how he feels about what he does. These lead to four basic character patterns. The active-positive type is characterized by high activity and high enjoyment. These persons typically have high self-esteem and “... show an orientation toward productiveness as a value.” They want to achieve results. The second type is active-negative, characterized by intense effort with low emotional rewards for that effort. Their activity is somewhat compulsive as if they are trying to make up for something through hard work. Their aim is “to get and keep power.” The third type is passive-positive. These persons are receptive, compliant, agreeable, and cooperative. This type typically combines low self-esteem and superficial optimism. These men are after love. The last type is passive-negative, in which the President takes little initiative and does not enjoy it. These Presidents generally are in politics because they believe they should be. They “emphasize their civic virtue.”

Regarding these broad character types elucidated by Barber, “Washington’s dignity, judiciousness, his aloof air of reserve and dedication to duty,” combined with his desire to leave politics and retire to his home, fit most closely the passive-negative character. John Adams’ high level of worry and impatience, together with his workaholic nature, most closely corresponds to the active-negative type. The active-positive type is best defined by Jefferson, who had a clear and open vision, a good work ethic, and a good application of reason. And Madison’s “irresolution” and attempts to compromise his way out of problems are most closely associated with Barber’s passive-positive type.

The importance of personality and character in effective presidential leadership was also emphasized by Greenstein. He placed what he calls cognitive style and emotional intelligence at the top of the list of important attributes. Cognitive style refers to how Presidents use thought to solve problems. Emotional intelligence is “…the president’s ability to manage his emotions and turn them to constructive purposes, rather than being dominated by them and allowing them to diminish his leadership.”

Carter had a tendency to perceive problems and issues in their component parts. Eisenhower had the ability to cut to the heart of the problem, and Clinton had the ability to absorb and process information. These are all examples of cognitive styles and use of intelligence that could be beneficial to each of these Presidents. Reagan’s imperfect understanding of problems and some of his own policy initiatives is an example of how a particular cognitive style can be a potential problem.

Examples of Presidents with high emotional intelligence, or the “…ability to manage his emotions and turn them to constructive purposes,” include Ford’s high emotional stability and objective reasoning, and G.H.W. Bush’s “emotional balance.” Those with low emotional intelligence include Lyndon Johnson, Nixon, Carter, and Clinton (all of whom had strong intellectual abilities). Johnson’s mood swings affected his decisions and the decisions of those around him. Nixon’s anger and suspiciousness led to the downfall of his Presidency. Carter was very rigid, thus affecting his ability to lead effectively, provide a sense of direction, and to work well with others in the Executive Branch. One example is his decision to withdraw United States troops from Korea. Once he had decided this during the campaign, he refused to listen to others in his administration, including the CIA and his own national security team, putting his own staff in the position of struggling with the President. Clinton’s lack of impulse control created problems within and outside his administration, which created significant problems and distractions to moving forward his agenda.

This paper has identified ten factors that significantly affect the ability of a President to provide effective leadership. Listed, those factors are: a quick start, a good transition, the selection of good advisors, a compelling purpose that is consistent with the values of the country, the ability to effectively convey his message, the ability to persuade the power brokers, the ability to persuade the public, his character, his cognitive style, and his level of emotional intelligence.

To conclude this paper, I will make an attempt to identify how our current President, G.W. Bush, rates on these factors. I use the word attempt because of the difficulty of rating Presidents on these factors years after they have left office, much less little over one year into their first term.
Despite the dispute regarding the result of the election, G.W. Bush appears to have had a good, quick transition to the Presidency. He set up his transition team early. His transition appears to have been smooth in the assignment of his staff and cabinet, and they appear to have adapted quickly to their new roles.

G.W. Bush appears to have chosen experienced and competent advisors. Although a few of his choices have caused some controversy, others have surprised the public, constituents, and the opposition party with their leadership and decisions since September 11.

G.W. Bush started his term without a mandate. There was clear division in the country regarding the choice of President, presumably due to the differences in ideology and campaign promises. Although he had clear ideas of the direction the country should move in many areas, and has had some successes, compromises, and failures in his initiatives, the war on terror has changed the framework. Since September 11, Bush's decisions and initiatives have been primarily supported by the public and Congress. In addition, his choices to go to war and in his prosecution of the war have been clearly within the framework of the values of the majority of Americans.

G.W. Bush began his Presidency speaking in a somewhat stilted manner. However, as time has progressed, his personal, straightforward style has emerged. His style also appears to have merged well with the wartime Presidency in which he has found himself.

As he did during his governorship, G.W. Bush has approached his Presidency in a gregarious and interpersonal manner. He began by forming personal bonds with leaders in both parties and made attempts to strive for a more bipartisan government. These efforts led to some legislative success. During the past several months, however, there has been some criticism of his methods, which may ultimately have a negative effect on his ability to persuade the power brokers. He has recently been criticized for keeping information from meetings secret, despite Congress' wish to be informed. In addition, his formation of a "shadow government" without informing Congress (even the members of his own party) has come under criticism. Even his efforts to reinforce the security of our country have come under criticism due to his administration's reluctance to offer Congressional testimony on homeland security.

G.W. Bush has had some criticism in his ability to effectively communicate with the public. His repeated misstatements and stilted speech, both during the campaign and thus far in his Presidency, may have created questions regarding his intelligence in some sectors of the public.

Regarding his character, G.W. Bush’s high desire to become President, high level of activity since taking office, self-confidence, outgoing, gregarious personality, and apparent drive to achieve results, appears most consistent with the active-positive character type. This is illustrated by his strong desire to produce and achieve results.

Regarding the President’s cognitive style, Carl M. Cannon, in an article on the National Journal website, reported that G.W. Bush is pragmatic, goal-oriented, and interested in solving problems. He also described Bush as someone who delegates authority and makes decisions quickly. According to the Unit for the Study of Personality in Politics at St. John’s University, Bush may gain only a superficial grasp of complex issues and may act impulsively, without fully appreciating the implications of the consequences. In another description, Bush was characterized as lacking intellectual curiosity.

G.W. Bush’s difficulties with alcohol certainly speak to problems in the area of emotional intelligence. On the other hand, so does his decision to stop drinking when he was forty. Since that point, his careers in business and politics have not been marred by emotional problems. In addition, his spoken words and behaviors since the terrorist attacks and thus far throughout the war appear well thought out and well received. However, there have been some exceptions to this, including his "axis of evil" statement.

So, what skills can a President bring to his job that will help him to be an effective leader? This paper identified ten important factors that lead to that end. Although each of these factors appears to be important and all seem necessary to a certain degree, no one of them is the be all and end all. There have been many Presidents who have been weak in one or more of these areas and made up for those deficits by exceptional abilities in other areas. In addition, as important as these factors might be, there are hundreds, if not thousands, of important factors that influence a President’s effectiveness and come to bear on his ability to lead this country.

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John Brown: America’s First Terrorist?

Can terrorism ever be justified? Read this before deciding.

By Scott Stanfield, Ph.D.

... how do we distinguish Brown from the Islamic fundamentalists of al-Qaida and their “martyrdom operations?”

terrorist. At the time I came across Gaston Ash’s article, I was teaching a course on works of fiction based on historical figures, and as it happens we had just reached the point in the semester at which we were taking up two contemporary novels about John Brown, Raising Holy Hell (1995) by Bruce Olds and Cloudsplitter (1999) by Russell Banks. As you might guess, this coincidence generated some awfully interesting questions for my class. In conducting his famous 1859 raid on Harper’s Ferry and attempting to start a slave insurrection, was John Brown a terrorist? What does his story tell us about the origins and nature of terrorism, or about the possibility, if any, of a morally defensible terrorism?

Or, to approach the same question from the other end, what does our own recent experience of terrorism tell us about John Brown? Is it a moral mistake to think of him as any kind of hero? Given our own reaction to the attacks on the World Trade Center and the Pentagon, can we be surprised that the outpouring of sympathy for Brown in the north made talk of secession increasingly urgent and heated in the south? If you know any image of John Brown, it is probably that of John Steuart Curry’s painting in the Kansas State Capitol, showing a Moses-like Brown with a wide-eyed, piercing gaze, a long, flowing beard that seems almost alive, and two outstretched arms, a rifle in one hand, an open Bible in the other. If you made the rifle an AK-47, the Bible a Koran, changed the buckskin coat to a white djellaba, and covered the spiky hair with a turban, you would have a picture that could pass for an image of Osama Bin Laden.

It is not at all the case, of course, that Brown has secure, unquestioned standing as an American hero. Opinion about him has always been divided, usually sharply. To many who wrote about him, he was a fanatic, probably insane, and certainly a murderer. He was the first American ever put to death for treason, and according to Nathaniel Hawthorne, “No man was ever more justly hanged.” On the other hand, Ralph Waldo Emerson declared before Brown’s execution, “He will make the gallows as glorious as the cross.” Brown was also eulogized by such contemporaries as Henry David Thoreau, Henry Wadsworth Longfellow, Herman Melville, Frederick Douglass, John Greenleaf Whittier, and Victor Hugo — a remarkable list, and all the more so when you think of the distinguished Americans like John Adams, James Madison, or Susan B. Anthony who left scarcely a ripple in our national imaginative literature. In the 20th century, Brown continued to fascinate gifted writers. Carl Sandburg and Stephen Vincent Benét wrote poems about him; W.E.B. Du Bois and Robert Penn Warren wrote biographies. In the work of the contemporary poet, Michael
S. Harper, and two novelists I mentioned earlier, Russell Banks and Bruce Olds, this fascination continues right up to the present.

Brown attracts novelists and poets for several reasons, I think. For one, his story has a built-in plot; he began in obscurity, attained notoriety as a paramilitary in “Bleeding Kansas” in the 1850s, then came to a climactic finish with the doomed raid on Harper’s Ferry and his capture, trial, and execution. For another, Brown himself had an arrestingely unique personality: a kind of abolitionist Captain Ahab with enough personal eccentricities to be a Dickens character. The very ambiguity of his heroism, shot through with dark streaks of violence and monomaniacal obsession, gives him a dramatic quality that more admirable persons may lack. The crucial reason, in my opinion, is that Brown provides a singularly compact and powerful case study of how principles can motivate action. His is the story of a man who dramatically intervened in history and did so entirely on the strength of an idea, of a vision of justice — who did so, moreover, at a watershed moment in our national history, perhaps fatally tipping the balance towards civil war — who did so, moreover, at a time trying to intimidate the other into leaving, sometimes by violence or threats of violence. John Brown’s two eldest sons were among the Free Soil settlers and, in 1856, they wrote Brown, pleading with him to send rifles. Brown soon arrived in person with not only the rifles but also a variety of hand weapons, including broadswords, and more or less appointed himself leader of the anti-slavery resistance. He led several skirmishes and raids, including a foray to a plantation in Missouri where he liberated eleven slaves; in defending the Free Soil settlement of Osawattomie against attack, he earned the nickname “Osawattomie Brown,” by which he was known through abolitionist circles in the north. In 1857 and 1858, he used this reputation to raise funds for a secret, much-cherished project, a kind of insurrection/exodus of slaves that he helped would lead to the founding of a sort of improvised republic of ex-slaves in the Southern Appalachians.

The raid failed completely, ending about 36 hours after it began with two of Brown’s sons dead and himself a prisoner. Apparently, no slaves responded, if they even heard about what was happening. Brown salvaged a different kind of success from the disaster, however, by turning his trial into an opportunity to state as plainly as possible his reasons for attempting to destroy slavery, which reasons were above all else religious ones, for Brown was, above all else, a religious man. He had memorized much of the King James Bible and could match scriptural citations with anyone. As an old-style, hard shell New England Calvinist who was also a fierce opponent of slavery, he had a hard time finding churches to belong to. In the conservative congregations where he found himself theologically at home, his abolitionist opinions made him unwelcome; the congregations where those views would have been acceptable or encouraged, such as Quaker or Unitarian ones, he found far too theologically lax. The tone of his theology is captured in his favorite Biblical verse, Paul’s Epistle of the Hebrews, chapter 9, verse 22: “And almost all things are by the law purged with blood; and without shedding of blood is no remission.” He believed that the United States had blood on its hands and would have to pay for that sin in blood; such is the meaning of the brief note he handed to an attendant on his way to the gallows: “I John Brown am now certain that the crimes of this guilty land: will never be purged away; but
with Blood, I had as I now think: vainly flattered myself that without very much bloodshed it might be done.”

His most telling and powerful statement as an emphatically Christian abolitionist comes from his final speech at his trial, which thanks to newspaper reports reverberated throughout the north:

I see a book kissed, which I suppose to be the Bible, or at least the New Testament, which teaches me that all things whatsoever I would that men should do to me, I should do to them. It teaches me further to remember them that are in bonds, as bound with them. I endeavor to act up to that instruction. I say I am yet too young to understand that God is any respecter of people [that is, considers some kinds of people inferior to others]. I believe that to have interfered as I have done in behalf of His despised poor, is no wrong, but right. Now, if it is deemed necessary that I should forfeit my life for the furtherance of the ends of justice, and mingle my blood with the blood of millions in this slave country whose rights are disrespected by wicked, cruel, and unjust enactments, I say let it be done.

Powerful words, but in our new post-September 11 context, how do we feel about someone whose faith is so strong, so compelling, so central to his being that he will shed blood to live up to what he absolutely believes his faith requires of him? Is Brown’s career faith-based activism at its most noble or its most disastrous? While I was researching this paper, I came across a 1986 article on the “Sanctuary” movement, in which participating churches gave shelter to Central American refugees. This amounted to resistance to the Reagan administration, which maintained that these refugees were in fact in no danger from their own governments and thus not entitled to political asylum. The article was titled, “John Brown is Back.” The allusion strikes me as appropriate. In positing their obedience to a law higher than the law of the state, the Sanctuary movement does seem a latter-day incarnation of the spirit of Brown, who quoted Deuteronomy 23:15 — “You shall not give up to his master a slave who has escaped from his master to you” — as justification for his own refusal to obey the Fugitive Slave Law. On the other hand, consider this quotation: “...the political impact of Brown’s actions continues to serve as a powerful paradigm in my understanding of the potential effects the use of defensive force may have for the unborn.” Those are the words of Paul Hill, who was convicted of and executed for the 1994 murder of Dr. John Britton, who performed abortions. Does Hill have as good reason to see himself as Brown’s heir as do the liberal Christians of the Sanctuary movement? For that matter, how do we distinguish Brown from the Islamic fundamentalists of al-Qaida and their “martyrdom operations?”

The second criterion Garton Ash proposes for defining terrorists is “Goals.” He writes: “Sometimes, as in the case of al-Qaida or the German Red Army Faction, the overall goals are so vague, apocalyptic, and all-embracing that they could never be realized in any real world. But sometimes they are clear and — as much as we deplore tactics that shed the blood of innocents — in some sense rational objectives, which may sooner or later be achieved in the real world.” Behind all of Brown’s immediate objectives — helping fugitive slaves reach Canada, forcing pro-slavery settlers to change their minds or leave Kansas, provoking a slave rebellion — was the clear and single overarching goal of ending slavery. Virtually all of us would grant, I imagine, that this was a rational objective, even a worthy one, even a noble one, and that it was indeed achievable, since a few years after Harper’s Ferry it was in fact achieved. On this criterion, Brown qualifies as a good or honorable terrorist, if there can be such a thing.

That, however, leads us to the vexed question of whether ends justify means and to Garton Ash’s third criterion, “Methods.” I quote him again: This is the single most important criterion. [...] Does the individual or group use violence to realize their personal or political goals? Is that violence targeted specifically at the armed and uniformed representatives of the state, or does the terrorist group also target innocent civilians? Does it attempt to limit civilian casualties while spreading panic and disruption [...] or does it aim for the mass killing of innocent civilians, as al-Qaida did on September 11?

At Harper’s Ferry, Brown did attack the government itself; some innocent bystanders were killed, but they were not targets. His activities in Kansas raise harder questions, though, especially the five killings known as the Pottawatomie Creek Massacre. On May 21, 1856, pro-slavery settlers sacked and pillaged the Free Soil town of Lawrence. Just a day later, news arrived that Senator Charles Sumner of Massachusetts, having protested on the Senate floor the activities of the pro-slavery faction in Kansas, was savagely beaten in the Senate cloakroom by a South Carolina Congressman, Preston Brooks. The response of Brown and a handful of followers was to visit three pro-slavery homesteads in the middle of the night, take five adult males from their beds, and march them down to Pottawatomie Creek, where they were slaughtered with broadswords. The victims had no warning, were given no chance to defend themselves, had not participated in the sacking of Lawrence, and did not even own slaves, although they were prominent in the pro-slavery Law and Order Party. Brown’s goal, according to one of the participants, was “to strike terror in the hearts of the pro-slavery people” as much as it was to avenge earlier wrongs. Unsurprisingly, the murders only worsened the violence in Kansas.

When Brown was in New England raising money for his Kansas campaign, he actually denied any involvement in
the Pottawatomie Creek murders, which makes one think he had his own doubts about the legitimacy of the attack, or at least about his ability to make the case for that legitimacy, even to other abolitionists. The Harper’s Ferry raid did not have the same striking cruelty to it, but it was an armed attack on the government, and in planning to arm the slaves, Brown obviously countenanced the possibility that the slaves would be killing their masters. It was the specter of this possibility that produced the South’s shocked incomprehension at the way many in the North embraced Brown as hero, martyr, and saint and that fueled the arguments for secession in 1860.

The worthiness of Brown’s goal and the terrifying means he used to pursue it bring us to the question of when or whether violent opposition to the state or its laws is ever warranted. This goes to Garton Ash’s fourth and final criterion, “Context,” or the circumstances surrounding any decision to resort to violence. Are there circumstances that justify violence against the state as there are circumstances, most believe, that justify war? This is an ironic question to ask on the day we celebrate the birth of Martin Luther King, who showed how powerful an instrument for change non-violent civil disobedience could be. In Brown’s day, too, there were those who insisted that moral suasion and example were the only legitimate weapons against slavery, William Lloyd Garrison being the best known. Then again, here we are, living these 225 years in a nation founded on violent resistance to King George III of England and his duly appointed representatives. If context provides legitimacy for the minutemen of Lexington and Concord but does not for, say, Timothy McVeigh, on what side shall we place John Brown?

We should keep in mind that those who opposed slavery suffered setback after setback in the 1850s. A propaganda breakthrough was achieved in 1852 with the publication of Uncle Tom’s Cabin, and the formation of the Republican Party meant that the anti-slavery position was clearly represented in national electoral politics. Still, at the same time that public opposition to slavery was mounting and solidifying, the government seemed ever more in thrall to what abolitionists called the “Slave Power.” The Fugitive Slave Law, enacted as part of the Compromise of 1850, required even states that had outlawed slavery to assist in maintaining and perpetuating it. The Kansas-Nebraska Act opened up the possibility that new slave states would continually be added as the United States expanded westward, and Presidents Pierce and Buchanan, though both from Northern states, seemed to be colluding with the Slave Power in, for example, appointing southerners as territorial governors in Kansas. Buchanan was ready to admit Kansas to the union as a slave state without waiting for the results of the vote by the settlers. The Dred Scott decision of 1857, in the eyes of abolitionists, not only guaranteed the survival of slavery in the South for the foreseeable future, but also made impossible its prohibition in the territories, and even, theoretically, gave southern slave holders license to move their human property into any state they chose without interference.

Historian and Brown biographer Stephen Oates describes how desperate the times appeared to Brown and his fellow abolitionists:

All they knew was that the South not only was justifying slavery in the name of God and civilization but was attempting to force slavery on Kansas and the rest of the predominantly free-soil West, through what seemed to them a program of invasion, terrorization by atrocity, bloodshed, fraud, and subterfuge. And while Southerners were a minority in the United States, they dominated the crucial branches of the federal government — the Presidency, the Senate, and the Supreme Court — and were using these agencies to perpetuate slavery in the laws and legal decisions of the United States and to extend it all over the West — and maybe the North as well.

After the Dred Scott decision, all ordinary political and legal avenues towards ending slavery seemed blocked. Non-violent abolitionists like Garrison were talking about dissolving the Union, which would rid the North of association with the guilt of the South, but would not free a single slave. For Brown, who felt the mere existence of slavery anywhere as a weight on his conscience, if slavery could not be ended by political or hortatory means, it would have to be ended by force. He told several people (including Emerson, who recorded the remark) that he believed in two things, the Bible and the Declaration of Independence, and that it was “better that a whole generation of men, women, and children should pass away than that a word of either should be violated in this country.” Emerson assumed Brown was speaking rhetorically; he wasn’t.

From his own time to ours, people have wondered whether Brown was insane. His obsession with slavery, the suicidal impracticality of the scope of his plans, and his sense of himself as a prophetic deliverer all argue that perhaps he was. On the other hand, in seeing that slavery was a political, ethical, and spiritual abomination that ought not to be tolerated even a minute longer if it could possibly be stopped, he seems to be one of only a very few Americans of his time who saw the great national moral issue of his generation with true clarity.

I think it is fair to call Brown a terrorist. According to the definition used in a U.N. report of November 2000, he would certainly qualify and, according to the same report, his actions would therefore be unjustifyable. Criminal acts intended or calculated to provoke a state of terror in the general public, a group of persons or particular persons for political reasons are in any circumstances unjustifiable, whatever the considerations of a political, philosophical, ideological, racial, ethnic,
Schooling Ain’t What It Used To Be

Public schooling is better than ever. Contemporary students have a wide variety of academic aptitudes and enthusiasm for education. Although the school year of 180 six-hour days has not been increased in 50 years and many social problems are being addressed during those “academic days,” measured achievement has increased. Schools are not as good as they could be or will be. Suggestions for improvement are offered.

By Joseph L. French, Ed.D. ABPP

About the Author

As a professor of education, he focused on the preparation of psychologists for the public schools during most of his 45-year career, especially in his 33 years at Penn State. His research included high school dropouts with high IQs, the transition of Head Start alumni through the primary grades, and developing tests of cognitive ability. Research in those areas, preparing school psychologists, and observing his four children progress through the public schools helped in the development of this talk.

Presented to the Central Pennsylvania Torch Club on September 11, 2002.

Public education is better than ever! I will provide a brief history, some substantiating facts, and some suggestions for improving schooling in the years ahead.

Public education started in the US with the Boston Latin School in 1633. In the late 1600s, in a few states, both boys and girls entered school at age six and stayed three or four years. Bible reading in schools was popular well into the 1800s.

Public education started in the US with the Boston Latin School in 1633. In the late 1600s, in a few states, both boys and girls entered school at age six and stayed three or four years. Bible reading in schools was popular well into the 1800s.

Whereas before 1800, Pennsylvania had started schools in each county with some public support, there was no public schooling in Virginia and most of the South until well into the 1800s.

Meriwether Lewis, born in 1774 into a large and well-to-do Virginia family, had no formal schooling until age 13, when a tutor was engaged. At age 18, he became responsible for his mother, brother, and stepsister, nearly 25 slaves, and a 2000-acre plantation. He was a “free speller,” or at least one “without consistency,” as was Thomas Jefferson and most others at the time. After five years of tutoring, he was satisfactory with “figures,” had a base in botany, natural history, geography, classics, and philosophy. It was more education than he needed to manage the plantation and care for the family, slaves, and farm animals (Ambrose, 1996). While more than he needed for the plantation, his education did prepare him well to co-lead the Corps of Discovery on the first major expedition to map a water routes through the newly purchased Louisiana territory, a path to the Pacific, and to report about the flora and fauna along the way.

In the 1800s, schools were open six days a week for children to study the old 3Rs: religion, reading, and writing. Arithmetic was added to the curriculum a little later. Over time, children had more years in schools. Latin, Greek, and Hebrew were added to the curriculum to prepare some students for newly emerging colleges.

More recently, with the rising percentage of adolescents staying in school and with the rising numbers of children and adolescents in crisis, attempts are being made to increase community involvement in hopes of providing a stable social environment with improved academic outcomes.

Public schooling is not found in the Constitution. Therefore, according to Amendment X, the control and regulation of education is vested in the states. As can be readily observed, rules and regulations vary by state.

Whereas the Federal elected and appointed officials frequently complain about the condition of public schooling, they have little financial stake in it and therefore little force. In a 1999 report from the US Department of Education, Digest of Education Statistics (table 230), sources of funding for public schools were divided as follows: Federal 7%, State 50%, local 43%.

Some presidents and congressional representatives talk with enthusiasm about educational legislation. In the last 30 years, many bills have been passed: 23 acts in the 1970s, 19 in the 1980s, and 43 in the 1990s. Even though the Congress and the President appear to be pleased with their recent legislation, the Federal financial contribution to the...
public schools is only 7% of public school operating costs.

The state share of funding varies considerably by jurisdiction. Forty states provide a larger share of public school funding than does Pennsylvania, whose share in 2001–2002 was about 35% with local sources making up the difference, or 58%. Utah provides 67% of school revenue — or about twice the state percentage in Pennsylvania. Utah may be setting a trend by targeting poor districts for more state aid than richer ones.

Changes in attendance
First, how has attendance changed? According to US Census data, in 1910 only 13.5% of the population 25 and over had completed high school. In other words, 86.5% of the population didn’t finish high school at the beginning of the century. By 1950, 34.3% were completing high school and by 1980, 68.6% were.

Probably everyone in your twelfth grade class graduated, but most of those in your third grade class did not. At your commencement, it is unlikely that there were any mentally retarded, learning disabled, attention deficit disordered, emotionally handicapped, pregnant, or students with serious court records — some of whom attended in shackles or with electronic monitoring devices. Now, schools serve youth with a very wide range of enthusiasm and aptitude for education.

By 1999, the percentage not completing high school was reduced to 16.6% or about the percentage graduating in 1920. Not only are more and more students staying in the schools longer, but schools are being asked to do more and more every decade.

Time in classes constant
A key element in academic learning is the time youth are with teachers in school. If we could assume that all children average 10 hours sleep a night, there would still be 14 hours a day or 5,110 hours per year they are awake and able to learn. For more than 50 years, 180 six-hour days, or 1080 hours, have been the school year. The day is a little longer for those in secondary school where many students participate in extra curricular activities.

Children are in classes less than half of the time they are awake on school days and in school only 20–25% of the time they are awake in the whole year. Parents are responsible for how children use about three-fourths of their waking hours.

For teachers, time has been held constant for at least the last 50 years. Educators get 6 hours a day, 180 days a year, for academics and other things with which they are asked to help.

On average, school age youths spend 3.3 hours a day or 1024 hours a year watching TV (Johnson, et al., 2002). Over the calendar year, the average child watches TV more than she or he is in a class. A newspaper story about the recently published longitudinal study lead by Jeffrey Johnson, of Columbia University, headlined the fact that those who watched TV more than the average per day were subsequently more likely to engage in aggressive behavior such as threats, assaults, and other violent acts than those who were viewing less than the average.

Seldom do we hear those who criticize schooling criticize TV programming.

Increasing school day content
New activities were added occasionally in the first part of the twentieth century; frequently in the second half.

Early in the twentieth century, health services were added to the school day. Small pox immunization clinics were established in schools, and not only school nurses but also school physicians were appointed. Outside the schools, Child Labor laws were passed, the Boy Scouts of America were incorporated, immigration peaked, Henry Ford developed the first moving assembly line, and Boston beat Pittsburgh in the first world series.

In the lead up to World War II, this country was in a depression. The schools added vocational education, the practical arts, business education, speech and drama, half-day kindergartens, physical education including organized athletics, school lunch programs. John T. Scopes was convicted of teaching evolution in the schools. Prohibition was repealed. The Social Security Act was passed, and there was widespread KKK violence.

Secondary school education became a standard for most young adolescents, but most did not graduate. In Pierce v. Society of Sisters, the courts allowed children to go to public or private schools.

The next section includes a time line featuring additions to the school day/year in the first paragraph, and in the second will be concurrent items in the decade, which I selected as markers. The first paragraph in each decade is almost verbatim from Schools Cannot Do It Alone, by Jamie Vollmer, http://www.jamievollmer.com/top_frame.html.

In the 1950s
Schools added safety education, driver’s education, new foreign language requirements (but not like 200 years ago), sex education (with topics escalating through the 1990s), and polio vaccinations. Music and art education was expanded.

About 35% of the students completed high school. McCarthyism began. The courts allowed released time for religious instruction when done off school premises, and banned racial segregation in public schools. The space age began when the Russians launched Sputnik I. The Congress passed the National Defense Education Act facilitating testing, guidance, libraries, and strengthening science, math, and modern foreign languages. The Education of Mentally Retarded Children’s Act authorized assistance for
preparing teachers of the handicapped.

In the 1960s
Schools added Advanced Placement (AP) programs, consumer education, career education, peace education, leisure and recreation education, and desegregation.

John Glenn, Jr. became the first American to orbit the earth. Martin Luther King, Jr. delivered the “I Have a Dream” speech. President Kennedy was shot in Dallas. Betty Friedan published *The Feminine Mystique*. Volunteers in Service to America (VISTA) was created. The Supreme Court ruled unanimously that busing of students might be ordered to achieve racial desegregation.

In the 1970s
School greatly expanded athletic programs for girls. Head Start and school breakfast programs began, as did drug and alcohol abuse education programs, parent education, and environment education. The Federal government mandated special education in public schools, and children began to exit mental institutions to enter local schools.

Torch amended its by-laws, substituting “people” for “men” but voted against admitting women in 1970. The Congress passed Title IX, the gender equity act, to increase sports participation by girls in 1972. By 1973, Torch voted to admit women, and the Vietnam War ended. The divorce rate increased greatly during the 1970s, many more women entered the labor force, and there were many single parent and two wage earner families.

In the 1980s
Schools added keyboarding computer education, global, ethnic, and multicultural/non-sexist education, English-as-a-second-language and bilingual education, preschool programs for children at-risk, after school programs for children of working parents, and alternative education in several forms; stranger/danger, anti-smoking, and sexual abuse prevention education; and more health and psychological services. Child abuse monitoring began as a legal requirement for all teachers.

AIDS was first identified. The nuclear accident at Chernobyl alarmed the world. The Supreme Court ruled that Rotary Clubs must admit women. Chinese students rallied for democracy in Tiananmen Square. Head Start was expanded. After 28 years, the Berlin wall opened to the West.

In the 1990s
HIV/AIDS education programs began, as did death education. Computer and Internet education was expanded. Exceptional children began to be included in regular classrooms. Tech Prep and school-to-work programs began, as did gang education (in urban centers), bus, bicycle, and gun safety education programs.

The World Wide Web debuted and the Internet was popularized. The Soviet Union broke up. Taliban Muslims captured the Afghan capital. The US budget surplus was the largest in three decades. Seventy-two percent of American taxpayers had no children in school, and 75% of the mothers of school age children worked.

In 2002, more testing was required by the Federal government to compare schools, but without funding to cover the costs.

Although much has been added to the duties of school personnel, in most states, we have not added a single minute to the school calendar in five decades!

Even though there was — and is — much violence throughout America, the 1990s had less violence in schools than the 1980s, according to a 1999 report from the US Center for Disease Control.

Academic competence is increasing
School personnel are doing much more than teaching the 3Rs in their 180 days now than they did in the 1950s. Are the students less able academically now than they were 50 years ago? No, they are not!

Look at Table 1 where I have summarized data from the Federally financed National Assessment of Educational Progress from 1971 through 1999. At each of the ages tested, both reading and mathematics scores were higher in 1999 than when the testing was started in the early 1970s. And, as we would expect, older children and adolescents have substantially higher scores than younger. While these gains in basic skills were occurring, the dropout rate decreased from about 40% to about 16%.

According to the Secretary of Education (Riley, 2000), over the last 50 years, scores on most standardized tests for reading, math, and science have gone up and the gender gap in math and science is shrinking.

Do we have the best reading and mathematic scores in the world at each age level? No, but large numbers of test takers in each country provide enough statistical power to make minuscule differences statistically significant. Raw score differences between the top countries are very, very small. Mean scores of US children and adolescents are in the middle of 15 tightly bunched industrial countries.

Now, nearly 85% of our young people complete secondary school when only 40 years ago only half were doing so. In the late 1960s when 25 to 30% of all students and 11% of students with IQs of 110 or higher were dropping out, I received a grant to study nearly 2,000 dropouts with IQs of 110 or higher from across Pennsylvania (French, 1969). One of the surprising findings was that there were two types of bright female dropouts. Carefree, ready for the world types and those we called “early homemakers;” i.e., withdrawn socially and pregnant before graduation. In those days, school records did not include “pregnant,” or words to that effect, in the list of reasons a student left school. However, most schools terminated any girl who was known to be pregnant. Now, schools use several resources t
help pregnant students complete high school.

**Teachers the most trusted**

Teachers are the most trusted among professional and public figures, according to a Harris poll of November 1998 and a Gallup survey of July 2002. Harris found that more Americans trusted teachers more than any other occupational group; more trusted than clergy, physicians, judges, professors, congressmen, and journalists. The top ranking of teachers was confirmed by the Gallup poll, which shows that 84% believe most teachers are more trusted than, among others, most police officers (71%), protestant ministers (66%), and much more trusted than Catholic priests (45%), journalists (38%), government officials (26%), lawyers (25%), CEOs (23%), and car dealers (15%).

If schools are as bad as many journalists and congressmen say, at least most of the teachers in the schools are trusted — more trusted than their detractors.

Have we done all we can to improve education? Definitely not. Children in metropolitan schools are not doing nearly as well as those in affluent suburbs. The achievement gap between white and black/brown students is not narrower.

**What can be done?**

There is no magic bullet that will help all children! Not phonics or “whole language,” or behaviorism, or new math, or any other single approach. The great ranges of differences in children mean teachers need to provide “different strokes to different folks.” However, there are some principles based on substantial research that can improve education.

**Increase time on learning tasks.**

Many studies conclude that academic achievement is related to active time spent on educational activities. Global estimates from educational clearinghouse summaries indicate that students spend only about 40% of the school day “on task.” Active learning can be increased with the use of computers or even with more simple teaching machines, peer or cross age student tutors, and/or with the help of non-professional adults (e.g., foster grandparents). Teachers do not need to do all of the things schools have been asked to do. Para-professionals are helpful with disruptive children, those with other special needs, and many bureaucratic functions. Many of the recent additions to schooling can be done during an extended school day by persons who may be paid less than teachers.

Reduce class sizes to enable more teacher directed time on task. In the primary grades, no classes should enroll more than 20 children and should be taught by appropriately certified (i.e., adequately prepared) teachers. Slightly larger class sizes can be effective in later years and in certain activities, such as band, where the director is easily aware of those who are not participating or playing well. Similar conditions can exist in a variety of academic disciplines where teachers can keep all learners “on task” and know who needs help.

Help children with reading comprehension by learning how to form questions to be answered by a passage and then summarizing what has been read. Time spent teaching letter and word recognition should not be reduced, but learning how to comprehend what they have just read needs to be taught to many young people by others in addition to the “reading teacher.”

Find ways for children to apply what they have learned in activities beyond the hours of academic instruction. Reading at home and elsewhere is easy. It is easier when children have parents who model that behavior and/or positively encourage reading.

Many people read for recreation; few recreate with math! Finding ways to use developing math skills requires more adult help. As basic skills in math, science, and social studies are learned, finding ways to apply them throughout the year will reinforce school learning. Yes, children need time to play, dance, day dream, talk with friends, and walk the mall, but about 75% of their waking hours are not in school. The most accomplished apply what they have learned when not required to do so. We should help those without intrinsic motivation to practice what they are learning.

Paraphrasing bank robber Willie Sutton about robbing banks because that’s where the money was, I believe we should provide health services to children in schools because that’s where the children are. Health clinics should be increased in number and enlarged in scope to provide coverage for the uninsured, with most of the service before or after the academic six hours. Health services should be funded with health, not education, dollars. Other services with their own funding might well use school buildings during non-academic hours.

More pre-school programs are needed. Recent studies show that 70% of American children are enrolled in pre-school child centers. It is the lower middle to middle 30% that are not enrolled or are not in quality programs.

Programs for children below school age from families with low income (i.e., Head Start) have shown, in the short term, a modest increase in cognition, self-esteem, and academic motivation. In the long term, results indicate higher achievement test scores, higher high school graduation rates, and improved social behaviors combined with less grade-retention or juvenile arrests. The wealthy provide fine private pre-school learning opportunities for their children. Public funding of pre-school learning activities would help children from lower middle class homes find quality early childhood programs.

Extend the school day and school year gradually. With the vastly increased percentage of two-income and single working parent families, public school buildings and educational or See “Schooling,” page 34
Distance Education: Where Is It Headed?

Using technology to enhance educational opportunities.

By Barbara Lauren, Ph.D.

About the Author
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Barbara is a graduate of Smith College, and earned a Ph.D. in English literature from Yale, and a law degree from Georgetown. She has also worked with Hood College (as Special Assistant to the President), and with the Council for Higher Education Accreditation (CHEA).

Presented to the Frederick, MD Torch Club in September 2002.

Distance education has many dimensions, and it is always evolving. I intend to focus on five aspects of the subject.

First, I will provide a brief overview: the definition, origins, and advantages of distance education.

Second, I will present some examples: some very good uses of distance education — in the non-profit sector; i.e., colleges and universities — and some failed uses of it. I will also refer to the experience of Frederick (MD) Community College over the past three years with distance education, which has generally been a success.

Third, I will introduce you to non-college sources of distance education: for-profit companies which are beginning to be tracked by Wall Street; certificates in information technology which are offered by Microsoft, Oracle, and others; and a very brief look at the U.S. Army’s program of distance education.

Fourth, I will summarize my own view of what makes distance education work best.

Finally, I will discuss a striking new departure in distance education by MIT. The Massachusetts Institute of Technology is making its course materials, graduate and undergraduate, available online. This will not lead to an MIT degree. But these materials will be available, free, to anyone. At the end of this talk, I will discuss the stirring reactions this plan has elicited all over the world.

I. Definition, Origin, and Advantages

Let me offer a brief overview of the definitions and origin of this form of teaching.

Distance education, in some form, is touching every facet of American post-secondary education. “Distance education,” or “distance learning,” can be defined as “any instruction in which the student is removed by time or place from the instructor.”

The use of the term “distance learning” often implies a student-driven experience — a course in which students have a large input into the content and pace of the course, more so than in traditional types of teaching. “Distance education” is a more neutral term and a more comprehensive term. So I will use that term from now on.

Distance education is actually not a new concept. Formal correspondence courses evolved in Europe in the mid-nineteenth century, and became popular in the United States by the turn of the century.

Then, as now, distance education recommends itself for three reasons: accessibility, convenience, and economy.

In the early days of distance education, so-called “correspondence courses” served people who lived in remote or sparsely-populated areas. Courses by mail were the only way such people could be served beyond high school.

More recently, however, the convenience factor is what drives distance education. For example, Frederick Community College has been offering courses online since the spring of 1998. Last year, FCC did a three-year study of its experience. Most FCC students live close enough to the campus so that distance is hardly an issue — nearly half live within ten miles, and nearly three-fourths live within fifteen miles. What the FCC study showed was that the overwhelming majority of the students who chose to take online courses did so because of convenience — they didn’t have to take leave from work to get to class; they didn’t have to take additional time away from their families; and they could do their class work late at night, or at any time during the day when they could fit it in.

Finally, of course — for the student, if not for the school — distance education is often cheaper. The student is paying for the credit, but not for housing and other traditional amenities — although, as many schools are discovering, the cost of the technology
is considerable.

II. Examples: Good and bad uses of distance learning; and what can be learned from the FCC experience

A. A Good Example

I have recently returned from a trip to the University of British Columbia, in western Canada. As a sample of a good use of distance learning, I offer an announcement of a new master’s degree offered by UBC. It is a Masters in Educational Technology, and it is UBC’s first masters degree offered entirely online.

I am also highlighting a profile of one of the students — the man standing in front of the igloo in Alaska. This teacher wants to learn how to use educational technology in his classes so as to better present material to his students. His class sizes range from 3 to 45 and, in many cases, his students do not speak English as their native language. He says in the article: “Late in the evening, after I put my two-year-old son to bed, I’ll go back to the school to use the Internet for my UBC class.”

Although this program is brand new, I believe it will be very successful. It is well targeted to fill a specific need. And it has already drawn students from around the world, from Switzerland to the Philippines.

B. Some Bad Examples

Many prestigious Ivy League universities have failed abysmally at online education. A recent article in the New York Times discussed several of these failures.

First of all, they overstaffed and overcharged. New York University, for example, assembled a staff of 45 to run its project, called NYU Online. Then they devised a course called “Train the Trainer” — and charged $1600 for it. It is perhaps not surprising that NYU Online attracted only 500 students at its peak. After three years, and after investing nearly $10 million, NYU abandoned the project.

A second mistake which many prestigious universities have made is in following the same model online as has worked for them onsite — offering degree courses only. The New York Times called this a “bricks-and-mortarboard approach.”

Columbia University devised an ambitious consortium called Fathom. It enlisted partners, including the London School of Economics, the University of Chicago, and the New York Public Library, among others. Despite courses provided by these impressive partners, “the idea that many students would pay $500 or more for them proved [to be] a miscalculation,” according to the Times.

After investing $25 million in financing this project, Columbia is currently reassessing the program. The plan now is that instead of focusing on students seeking baccalaureate degrees, Fathom will concentrate on providing professional development and continuing education.

C. The Experience of Frederick Community College

The experience of Frederick Community College provides a good example of how a program can work, after revising some unrealistic expectations.

FCC found that the best use of its money was to market its online offerings to students who wanted to enroll for just one or two individual courses, not a whole degree. In other words, FCC found that online learning, at least initially, was most attractive to people who were only occasional consumers of courses, but who found that education was so convenient online that they eventually matriculated for a degree.

This was different from FCC’s original intention, which was to focus on the degree students first.

FCC has concluded that although the online format has to be used selectively, more than 75% of the students who had taken an online course at the college said they were likely to take another one and, in the college’s estimate, about 25% would actually do so.

FCC has concluded that the use of an online format must be selective. It is a very good way of attracting students who do not yet want to commit to enrolling for an entire degree. But it is not a magic bullet. “The online format works for some students, in some disciplines, with some instructors, but it is not for everyone or every course.”

III. Non-University Sources of Distance Education

So far, I have focused exclusively on the private sector — the two- and four-year colleges and universities with which we are all so familiar. But there are three other types of providers which are making available a great deal of distance education.

A. For-profits — The top ten

Because the work of work now requires more credentials, and because people with credentials need to be kept up-to-date, a large market has evolved for education for working adults — both continuing education and first degrees, such as a B.A.

As you can imagine, enterprising businessmen have seen this opportunity, and there is now a for-profit sector in higher education which is sufficiently lucrative for Wall Street to track it as a separate industry.

In fact, the Chronicle of Higher Education, a weekly newspaper which is the Bible of higher education news, now publishes, in its annual Almanac issue, an index which tracks the performance of ten publicly-traded higher education companies. In the year ending June 30, 2002, the Chronicle’s For-Profit Higher Education Index was up 16%. For the same period, the S&P 500 Index was down 19%.

Many of the ten companies are familiar names: Sylvan Learning Systems, Strayer Education Inc. (with several campuses in this area), and DeVry, Inc. One of them is worth mentioning at slightly greater length.
That is the University of Phoenix — which, despite its name, is not a public entity; it is owned and run by a private, for-profit company, the Apollo Group. (The Apollo Group has also spun off an online company, called University of Phoenix Online, which is another of the ten companies tracked by the Chronicle.)

Phoenix was founded in 1976, accredited two years later, and bills itself as the largest private accredited university in the country. It has a well-targeted business plan, which it has stuck to: it is focused on “applied professional education for working adults,” as it states.

Its scale is startling. It has an enrollment of 125,000 students. Classes are offered at 116 campuses in 23 states, Puerto Rico, and Canada. Students who study on-site total 80,000; students who study online total 45,000. (These statistics are from the University of Phoenix website.)

To give you a sense of the scale of the Phoenix enterprise: The University of Texas at Austin, the flagship institution of the Texas system, enrolls 50,000 students. One of the largest public community colleges in the country, Miami-Dade, has 48,000 students. The University of Maryland College Park has 33,000; University of Maryland University College has 18,000, and FCC has 4,000.

Most Phoenix students (77%) are studying either undergraduate business (43%), graduate business (20%), or information systems and technology (14%). The remaining students are enrolled in general studies; education; health sciences and nursing; and counseling. According to Phoenix, the average student age is 34; the female-to-male ratio is 54% to 46%; and the average student household income is $50,000–$60,000.

In May of 2002, the Apollo Group was added to the S&P 500 Index — the first educational company to be included in that benchmark index.

B. For-Profits: Information Technology Certificates

There is a large and fascinating subset of for-profit distance learning which caters to the information technology industry. Clifford Adelman, a respected analyst for the U.S. Department of Education, is the acknowledged authority on the private certification system which evolved in the 1990s for the IT industry.

In Change magazine in 2000, Adelman wrote that he noticed that many IT job postings asked for experience, rather than for degrees. When they did request some kind of credential, it was often an industriesponsored certificate. Industry leaders such as Microsoft, Oracle, Novell, and Cisco offer a series of courses and tests which lead to certificates which are highly valued in the marketplace, as Adelman found from the job postings. Because these credentials are offered outside the academy, they are not part of the federal government’s data system. (All of the more than 6,000 institutions of post-secondary education which participate in the federal financial aid system must file an elaborate series of statistical reports each year with the federal government.)

Because more courses offered by vendors are outside the federal financial aid and reporting system, this is truly, in Adelman’s phrase, a “parallel universe.”

And it is a large universe. Only estimates are possible. But Adelman estimates that during the decade of the 1990s, at least 1.7 million of these credentials have been awarded in the United States, and perhaps 2.4 million worldwide.

To give you some sense of the comparison: In any given year, the number of bachelor’s and associates’ degrees awarded in the U.S. is about 1.6 billion.

Adelman concedes that the IT certificates are not traditional multidimensional higher education. But, he states, “the IT guild has brought competency-based education and performance assessment to a status they have never enjoyed within traditional higher education. The guild has implemented, in effect, many of the reforms espoused within the academy in the 1970s and 1980s.”

C. Military Distance Education

The Army has begun a major online education program. According to the Chronicle of Higher Education, the Army’s program has responded to such a need that when enrollment first opened, in January 2001, “soldiers camped outside their bases’ education offices before dawn to sign up.”

The program is known as Army University Access Online, or eArmyU, and 12,000 soldiers enrolled in its first year of operation. The Army pays for all tuition, course fees, and books. The colleges which agree to participate must join a consortium called the Servicemembers Opportunity Colleges, a network of colleges which accept transfer credit from each other for military students. The average tuition rate per semester hour is $153 for undergraduate courses and $300 for graduate courses.

Soldiers must pick home institutions from which they get their degrees, but they can take up to 75 percent of their courses at other eArmyU colleges. So far, soldiers in eArmyU have transferred their credits not only to bases in the United States, but to U.S. bases in 15 other countries.

IV. Where is Distance Education Headed?

My own view is that distance education works best in three settings:

Consulting professional education, for a degree — One example: The masters degree in educational technology. The subject is timely; it is well suited to technology; and it is directly related to the work which the students do, or hope to do.

Continuing professional education, in one-shot form — In fields ranging
from law and medicine to hotel administration, people need timely updates in small chunks (two hours, in many cases). In such cases, timely updates, delivered in a concentrated, interactive and convenient form, are a very good fit for the needs of working professionals.

An add-on to a traditional bricks-and-mortar curriculum — When a small college wants to add advanced courses, especially in the sciences or in the less commonly taught foreign languages, distance education is often a good way of creating a large enough pool of students and faculty to provide such opportunities. The school is able to expand its curriculum without making permanent, long-term commitments to additional faculty and staff.

V. A New Twist: The Case of MIT

At the beginning of this paper, I mentioned that MIT is going to make almost all of its courses available online. Within the first two years of this initiative, which began in the spring of 2001, MIT plans to make 700 of its courses available online — syllabi, lecture notes, reading lists, and assignments for each course. By the end of the 10-year, $100 million project, called the “Open CourseWare Initiative,” MIT plans to make 2000 of its courses available online.

Strictly speaking, this is not distance education in the traditional sense, in that no one will be able to acquire a degree or a certificate from these materials.

Nevertheless, this project was greeted with joy by people around the world. On its website, MIT placed a sampling of messages, received over a three-day period in April 2001, when the Open CourseWare Initiative was first announced.

One student wrote from Uganda: “What I saw from your initiative is the possibility of a major global upgrade of education — professors in the U.S. and around the whole world, including those in little Uganda where I am from, will be inspired and motivated to be on par with MIT standards. The students will demand it because [their] access to high-end quality education [will give] them opportunities for a better life ...”

From Seattle: “What an extraordinary idea! I’m simply in awe of your ambitious initiative. That it comes from a private university which could arguably maintain that it does not have the same obligation to the public as a state university is even more striking.”

From a site not identified: “In my opinion, this is as profound as the U.S. Constitution or the Declaration of Independence. You have opened the doors for everyone to pursue their dreams. You have fundamentally changed the educational landscape of our world. Let’s hope this knowledge is put to good use.”

Conclusion

H.G. Wells once said that “human history is a race between education and disaster.” Distance learning, whether for credit or not, is a revolutionary and hopeful development. By making learning available across borders and barriers, it can help people transcend their geographical and cultural limitations, so they can make their own contributions to the world.

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“Hybrid Vehicles,” from page 9

refueling at the gas station, no gasoline fumes come into the environment of the gas station, because there are practically no fumes to come from the tank that has totally collapsed around the remaining fuel.

That Prius is a gem to behold and to operate! The car has been priced at the mid-range of the all-gasoline Toyota Camry models, namely, $20,000. I have seen some indication that some local dealers may offer a deal at a somewhat lower price. But initially, when my vehicle was purchased during the early life of the model, Toyota closely controlled price in order to prevent dealers from raising the price higher. I am a strong believer in the great value of competition. So I am thrilled to see the competition of Honda with a hybrid electric version of its popular Civic. However, I would tend to call the Honda Civic a hybrid electric “medium.” The electric components are smaller and less powerful (and cheaper to build) than those of the Toyota Prius. For example, the hybrid Honda Civic has a 13 HP electric motor compared with the Prius 44 HP electric motor, and the Civic thus has a somewhat larger gasoline engine. Data from Consumer Reports shows corresponding lower fuel efficiency.

U.S. auto companies may be ready to jump upon the hybrid bandwagon, and that is great! However, the U.S. auto companies plan to emphasize hybridizing SUVs and light weight trucks. That seems ever better. If Americans are going to purchase gas guzzling SUVs, hybrid SUVs would be better, because they would use less gasoline and emit smaller quantities of toxic gases.

What about the hydrogen car, of which we hear a lot? The hydrogen car has prototypes to show the public. But there are many technical and economic problems to be solved. Perhaps the hydrogen car will be available for public purchase in ten years, or perhaps even longer. And where is the infrastructure (the filling stations) for filling up with hydrogen? In summary, I believe that the hybrid vehicle will help us to reduce our gasoline usage and oil imports, and greatly improve our air environment over the next twenty years.

Addendum

The author and his wife have ordered and will take delivery of their second Toyota Prius in November 2003. The 2003 Toyota Hybrid Electric Prius has many improvements over the already excellent 2001 model that we have now owned for three years (and 50,000 miles of use). The new 2004 model is larger (mid-size) and more powerful. It has a
66 HP electric motor and a 78 HP gasoline engine. It remains a four-door sedan, but now has a hatchback, plus folding split rear seats (40/60) for greater versatility. In spite of its larger size, the new Prius will have even larger fuel economy and lower emissions. The 2004 model now exceeds the Super Ultra Low Emission category, and is in the newly created category of Partial Zero Emission Vehicle (PZEV). I can expect fuel economy of about 55 miles per gallon. Our first Prius has an overall three-year average of 50 miles per gallon. The new model retains the basic prices of about $20,000. We will keep the three-year-old vehicle as well as the new model, and thereby become a two Prius family.

“Oligopoly,” from page 12


“Wright Brothers,” from page 16

accomplishments of the Wright Brothers. As a result, several French experimenters, including Santos Dumont and Farman, made crude heavier-than-air machines capable of making short, straight-line hops reaching an altitude of about 15 feet. They did not believe that the stories of the Wright’s impressive flights were true.

When the Wrights heard of the French developments, they realized that they had better reveal their machine or they might lose credit for being the first to fly. In 1908, Orville arranged to demonstrate his airplane for the Army at Fort Myer, near Washington, DC and Wilbur went to France to demonstrate his airplane for the French authorities. In both cases, the spectators were amazed at the flying abilities of the airplane and the skill of the pilots. In the United States, the President and congressmen, and in France the heads of state, together with thousands of spectators, came to watch the flight demonstrations. Wilbur carried 47 passengers, and made flights to an altitude of 400 feet and duration of two hours. Orville completed all the contract requirements he had stated for the Air Corps, including a speed of 48 miles per hour and a flight to a point 20 miles distant and return. The Army also required that a flight be made with a passenger familiar with aviation. Lieutenant Selfridge, a young man who worked with Glenn Curtiss, was chosen.

Unfortunately, when the airplane had reached an altitude of 40 feet, a propeller blade cracked, allowing the blade to bend and catch a wire that controlled the rudder. The rudder was pulled over, causing the plane to go into a spiral dive and crash. Orville was seriously injured, suffering a fractured pelvis, four broken ribs, and concussion. Lt. Selfridge suffered a fractured skull and died, the first fatality of a passenger in a heavier-than-air airplane. Orville was in the hospital for seven weeks, nursed back to health by his sister, Katherine, and by Wilbur, who returned from France to be with him. For the rest of his life, however, Orville had painful sciatica as a result of the crash.

The Wrights at this time sued Curtiss and all the other companies in the United States and Europe who were building airplanes to sell. The main claim by the Wright Brothers was the use of wing-warping for lateral control. A judge ruled that all similar methods of lateral control, such as ailerons like those on modern airplanes, also infringed on the patent. In 1912, Wilbur contracted Typhoid Fever and died. Orville was left with the job of prosecuting many patent suits, competing for lucrative prizes that were offered for spectacular flights, running an airplane factory for the Army, and training pilots. By 1914, World War had started. The United States had just six airplanes in flying condition, whereas France and Germany each had several hundred airplanes and pilots. The Army realized that it was not practical to let one man control the development of aviation in this country. In 1917, the year this country entered the war, they awarded Orville Wright the sum of $2,000,000 and a similar sum to the Curtiss-Martin Company, on condition that they would make their patents available to any manufacturer who wished to use them. At last, Orville had reached his goal of becoming rich and famous.

After that, Orville took no interest in designing new airplanes. He readily admitted that developments made in World War I were beyond his knowledge or capabilities. He continued an interest in aviation. He received the Collier trophy for design of an autopilot. He served throughout his life on the main committee of the National Advisory Committee for Aeronautics, the governing committee for the development of aviation in the United States. One of Orville’s last acts was to arrange for the shipment of his original Wright Flyer back to the United States from England, where he had sent it because of disputes with the Smithsonian Institution over that organization’s claim that Langley’s aerodrome was the first airplane “capable of flight.”

“John Brown,” from page 24

Can we accept the universality insisted on in the words, “in any circumstances?” Let’s look at how Brown’s personal mission concluded.

Brown’s raid on Harper’s Ferry, considered in itself, accomplished nothing. His conduct at his trial, however, his voluminous correspondence in the four weeks between his sentencing and his
execution, and his constant conversations with journalists, who through the relatively new means of the telegraph rapidly transmitted his message to every part of the country, riveted the attention of the nation and focused the argument against slavery as it had never been focused before. He polarized opinion so thoroughly as to make it finally and irrevocably clear that the era of compromise and temporizing was over. Could Brown have accomplished this without resorting to violence? I would say no. Never as an ordinary citizen could he have had the national audience he had as the man being tried for the outrage at Harper’s Ferry; never but as the man sentenced to death for that outrage could his voice have had the peculiarly powerful authority that only those for whom there will be no tomorrow have. What he accomplished, which is not inconceivable, he accomplished because he was willing to act as a terrorist.

The U.N. report’s definition, in my opinion, assumes that there is no legitimate authority in the world but that of the state. There is nothing, it seems to assert, in the name of which one can justifiably attack the state. Brown did not believe that, and I suspect most of us do not entirely believe it, either, since not only do our religious traditions teach us we have obligations to authorities other than the state, but so does the Declaration of Independence. Our nation’s founding document is nothing if not an argument that the state can so misuse its authority as to sacrifice its own legitimacy. Brown’s contemporary, Henry Wadsworth Longfellow, seized on just this point, writing in his diary on the day Brown was hung:

This will be a great day in our history; the date of a new Revolution — quite as much needed as the old. Even now as I write, they are leading old John Brown to execution in Virginia for attempting to rescue slaves! This is sowing the wind to reap the whirlwind, which will come soon.

Was Brown a terrorist? Yes. Was he an honorable terrorist? I am going to say yes, and duck.

References


“Schooling,” from page 28

educationally-related programs in them should be available throughout the working day and year. In other industrial nations, schools operate for up to eight hours a day and for 220 days a year. Their students spend about 40% more time in formal educational activities than our children. A one-step extension to add two hours a day and 40 more school days to the year would be very, very expensive. However, as is taking place this year in a few schools around the nation, including our local schools, teacher raises are tied to the extended school year. Teacher contracts could call for as many additional days as the yearly pay increase provides. This is a win-win situation for gradually increasing the length of the school “year” and teacher salaries.

Change the formula for funding by moving from local property taxes largely to the state income tax. There is no way that communities with high unemployment can provide the dollars necessary for quality education when their budgets depend primarily on local property or income taxes. Since the Federal government does not have the constitutional authority for educational programs, states should provide most of the funding. Over the past 30 years, the state share in Pennsylvania dropped from 55% to 35%. This trend must be reversed. People in the more affluent districts should help finance schooling in the less affluent districts.

Yes, today, public schooling for the masses is better than ever. Yes, there are many schools that need improvement and many more children who need more help than they are getting. We need less negative press and fewer critics crying about small parts of the big picture. We need positive, creative thinkers among school personnel and among the interested public.

References


Jones, L.Y. (July 8, 2002). Leading Men, Time.

2004 Paxton Lectureship Award

The Paxton Award, created in honor and memory of W. Norris Paxton, past president of the International Association of Torch Clubs and editor emeritus of The Torch, is given to the author of an outstanding paper presented by a Torch member at a Torch club meeting during the calendar year 2003. The winning author will receive an appropriate trophy, a $250 honorarium, and paid registration to the 2004 AITC convention in Wilkes-Barre, PA. The winner will be introduced at the convention banquet where he or she (or a designated representative) delivers the paper on June 26, 2004.

Eligibility: The author must be a member of a Torch club and the paper must have been delivered to a Torch club meeting or a regional Torch meeting between January 1, 2003 and December 31, 2003 (inclusive). Current officers and directors of IATC are ineligible for this award during their terms of office.

Procedure: Entries are to be typed (double or triple spaced, one side of paper only). Include a cover sheet with the authors’ name, address, daytime telephone number, and the date and place of presentation of the paper. All other identification, including identifying references, should be removed prior to submission. Entries may be submitted at any time, but the deadline is March 1, 2004. Send to: Paxton Award, c/o Editor, International Association of Torch Clubs, 749 Boush Street, Norfolk, VA 23510-1517.

Judging: The reading and judging panel comprises five people: a member of the Board of Directors of the IATC, one of the last five winners of the Paxton Award, a member of the Editorial Advisory Committee, and two members selected by the IATC Board of Directors. Judging is based on the principles set forth in the IATC brochure, “The Torch Paper.” The winner of the Paxton Award and other contestants will be notified approximately May 1, 2004.

Additional Information:
• There is no limit to the number of papers which may be submitted from any one Torch club for this award.
• A paper may be submitted by the author, by a Torch club colleague, or by a Torch Club officer. It is preferred that, however the paper is submitted, it receive the endorsement of the club as a Paxton Lectureship Award submission through its officers, secretary, or the executive or program committee.
• The winning paper is to be presented at the 2004 annual convention by the author or an author-designated representative from the author’s Torch club.
• The Paxton Lectureship Award paper will be published in the Fall 2004 issue of The Torch magazine. Other entries will be forwarded to the Editorial Advisory Committee for possible publication in later issues of the magazine.

Don’t Miss the next Torch Convention
in Wilkes-Barre, PA
June 24–27, 2004
Call to Annual Business Meeting & Torch Convention in Wilkes-Barre, Pennsylvania

June 24–27, 2004 at Genetti’s Hotel and Convention Center, Wilkes-Barre, PA

Thursday, June 24, 2004
9:00–3:00 IATC Board Meeting (including lunch)
12:00–6:00 Convention Registration
3:00–4:00 Torch Officers Forum
4:00–5:00 General Business Session #1 for all delegates and registrants
5:30–6:30 Welcoming Reception & cash bar
6:30–7:30 Welcoming Dinner
8:00–10:00 Movie: *The Molly Maguires*

Friday, June 25, 2004
8:00–9:00 Breakfast at Hotel (free buffet)
8:00–5:00 Convention Registration
9:00–10:15 General Business Session #2
10:15–10:30 Refreshment Break
10:30–11:45 Torch Paper #1
11:45–12:30 Box Lunchees
12:30–4:30 TOURS (multi-groups)
6:15–7:00 Reception & cash bar
7:30–10:00 Annual Banquet, Torch Awards, Paxton Award Lecture

Saturday, June 26, 2004
8:00–8:30 Breakfast at Hotel (free buffet)
8:00–5:00 Convention Registration
8:30–9:10 Meet the Editor/Foundation Officer Orientation
9:15–10:15 Membership Development
9:15–10:15 Torch Full Board Meeting
10:15–10:30 Refreshment Break
10:30–11:45 Torch Paper #3
11:45–12:30 Box Lunchees
12:30–4:30 TOURS (multi-groups)
6:45–7:30 Reception and cash bar
7:30–10:00 Annual Banquet, Torch Awards, Paxton Award Lecture

Sunday, June 27, 2004
7:30–8:00 Interdenominational Service (optional)
7:30–8:30 Breakfast at Hotel (free buffet)
8:45–10:00 Torch Paper #4
10:00–11:00 Business Session #3 & Closing of Convention
11:15–1:30 Torch International Board and Luncheon

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*Continued from page 1*

Richmond.

Each time we have the threat of such a storm, there are people who earnestly pray that the storm will miss us. I suppose that is also the case in other areas subject to such storms. Since, if a storm misses us, it will surely smite someone else in another place, I think that such prayers are really requests to God to pass our bad luck on to someone else. Is smiting thy brother really the purpose of prayer? Or should it be? You should ask around Richmond.

Now, back to Torch. Just before the convention, we received a number of good Torch papers. Some of them would have qualified as candidates for the Paxton contest and are good enough to have been real contenders. They just didn’t get here in time. Club officers should assume the responsibility now for seeing that all papers delivered to the club during calendar year 2003 are submitted to the editor before the end of February 2004 so they may be considered for the Paxton contest. If you believe a particular paper to be outstanding, mark “Paxton Contestant” on the cover page. That will assure it is entered in the contest without detracting from its chances of eventual acceptance for publication in the magazine.

At our local club meetings, there is often talk of building membership. We need to do that to make good clubs better. The only way to do that is for us — You and I — to bring guests to our next meeting. Don’t wait for someone else to act. Do it yourself, and do it now!

And finally — dig out your copy of the fall issue of *Torch*. The one with the pumpkin colored cover. Now look at the photos in the back. You see a lot of people who are smiling. And why are they smiling? They’re smiling because they are having fun at the Torch Convention. Not a gloomy face in the bunch. You can be having fun too at the next Torch Convention. Try it.

— Pat Deans
The Wyoming Valley Torch Club
International Association of Torch Clubs, Inc. – Annual Convention
Wilkes-Barre, Pennsylvania June 24–27, 2004

Please complete this form and return with your check to:
Wyoming Valley Torch Club
c/o Wyoming Seminary – Attn Mary Swahback
201 North Sprague Avenue
Kingston, PA 18704-3593

Make checks payable to: Wyoming Valley Torch Club
and indicate 2004 Torch Convention on check.

REGISTRATION RATES (U.S. DOLLARS):
$250 – through March 31, 2004
$270 – after March 31, 2004

REGISTRATION INFORMATION
___ Persons @ $_______ (U.S.)      Total $_______

Torch Member Name & Profession: _____________
_________________________________________
Guest Name _______________________________
Names for Name Tags _______________________
_________________________________________
Address __________________________________
_________________________________________
City/State ________________________ Zip______
Telephone (     )_____________________________
Torch Club ______________________________
Special Needs _____________________________
Comments ________________________________

Hotel Reservations for
Best Western Genetti Hotel
77 East Market Street
Wilkes-Barre, PA 18701

Make reservations directly with Genetti Hotel
1-800-833-6152
Please mention Torch Club

Room Rates
$84 Single       $89 Double       $5 Extra Person
Block of rooms being held until May 15, 2004

Afternoon Tours:
Please give us an indication of your preliminary interest.

☐ Lackawanna Coal Mine Tour—Visit the cradle of America’s
  homegrown energy source, anthracite coal. Tour a deep coal mine,
  go through its chambers, experience three hundred feet into the
  depths of the earth. Learn about the mining methods from an actual
  coal miner, and inspect the nineteenth and early twentieth century
  tools in the Anthracite Museum. Jewelry crafted from anthracite
  coal and folk art is on display, some available for purchase.

☐ Ricketts Glen State Park—Get back to nature and see 14
  spectacular waterfalls, and old-growth deciduous forest in one three-
  mile hike at Ricketts Glen State Park. The trail follows down the
  shaded and mysterious Kitchen Creek and is steep and close to
  cliffs in parts. It is recommended you bring hiking boots or
  substantial walking shoes and are sure-footed for this difficult but
  visually rewarding hike. The trail is well kept and used by thousands
  of people from all walks of life every year. Essentially no climbing
  up hill is required.

☐ Tour of Historic Wyoming Valley—Go back in history to a sparsely
  defended outpost of the Revolutionary War, site of the Wyoming
  Massacre. See Queen Esther’s Rock where the deed was done,
  whether by Queen Esther or not. Learn about the Native Americans
  who occupied the valley at the Wyoming Valley Historical and
  Geological Society. The tour will pass historic buildings at Wilkes
  University, Kings College, Wyoming Seminary, the court house, on
  to the Susquehanna River Dike and end at restored colonial
  buildings, such as the Swetland Homestead that can be inspected
  in detail.

☐ Eckley Miners Village—See how our immigrant ancestors lived:
  Tour Eckley Village, established 1854, consisting of scores of un-
  modernized, well preserved miners’ homes and town buildings.
  Compare the houses of the miners to those of the bosses, the colliery,
  churches and salons. How did the women and children of those
  hardworking miners fare? We will never forget the Molly Maguires,
  a secret society of Irish-American coal miners from this region at
  the beginning of the labor movement in America. A popular movie
  was made at this site.

☐ Frances Slocum State Park—A pleasant walk through Frances
  Slocum State Park, named in honor of Frances who was kidnapped
  by the American Natives during the Revolutionary war, and was
  not heard from for 59 years, when she was discovered, under the
  name of Ma-con-a-quah, as the wife of a Miami chief. This tour
  will climax with an inspection of exquisitely restored horse drawn
  carriages collected by George Taylor.

☐ Steam Town National Historic Site—Another way to experience
  the lush, deciduous forests of Northeastern Pennsylvania Pocono
  Mountains is on an authentic steam locomotive, out of Steam Town,
  Scranton, Pennsylvania. Do you remember the cordial conductors
  and elegant dining cars? Creep up the mountain sides, observe the
  mountain laurel, darting deer, and dense woods, speed back down
  with the train whistle blowing. You may choose either the excursion
  on the rails on a restored locomotive, or a tour of a nationally famous
  museum of locomotives and the railroad industry.
Reflections

The Education of Henry Adams (1907)

Although the Senate is much given to admiring in its members a superiority less obvious or quite invisible to outsiders, one Senator seldom proclaims his own inferiority to another, and still more seldom likes to be told of it.