

THE NOBEL AND THE IG NOBEL

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With the residue of my convertible estate I hereby direct my executors to proceed as follows: They shall convert my said residue into money, which they shall then invest in safe securities; the capital thus secured shall constitute a fund, the interest accruing from which shall be annually awarded in the form of prizes to those persons who shall have contributed most materially to benefit mankind during the year immediately preceding. The said interest shall be divided into five equal parts, which shall be apportioned as follows: one part to the person who shall have made the most important discovery or invention within the field of physics; one part to the person who shall have made the most important chemical discovery or improvement; one part to the person who shall have made the most important discovery within the domain of physiology or medicine; one part to the person who shall have produced in the field of literature the most outstanding work of an idealistic tendency; and one part to the person who shall have done the most or the best work for fraternity among nations, for the abolition or reduction of standing armies, and for the holding and promotion of peace congresses.

Signed Alfred B. Nobel, November 27, 1895. Nobel wrote the will in Swedish by hand, without an attorney, and died thirteen months later. The first Nobel prizes were awarded in 1901. Nobel could not have imagined that his prizes would make him probably the best-known Swede who ever lived.

Alfred Bernhardt Nobel is famous for the prizes; his achievements and personal life are much less well known. He was born in Stockholm in 1833, descendant of a long line of inventors, engineers, and technicians reaching back at least two centuries. His father, Immanuel Nobel, was an inventor and engineer doing major construction work in Stockholm. The construction work led to an interest in and experimentation with different methods of blasting rock. When Alfred was five years old, an industrial accident forced his father into bankruptcy.

Immanuel left Sweden and relocated in St. Petersburg, Russia, where he opened a business manufacturing and selling munitions, primarily to the Russian army. The business thrived from the beginning and, four years after his bankruptcy, Immanuel brought his family, a wife and four sons, to the Russian metropolis. The family lived an upper class life style in St. Petersburg taking advantage of its lively scientific, social, and cultural activities. The four sons did not attend school but were educated at home by outstanding and highly qualified tutors. The educational emphasis was on chemistry and physics, philosophy, literature, and languages. By the age of seventeen, Alfred was fluent in Swedish, Russian, French, English, and German. His education and the cultural milieu of St. Petersburg laid the foundation for the cosmopolitan nature of his life.

When Alfred was eighteen, he went abroad for two years of further training in chemical engineering. He spent time in laboratories in Sweden, Germany, France, and the United States. He liked France the best and worked in Paris in the private laboratory of Professor T. J. Pelouze. In this laboratory he learned of the existence of nitroglycerine, a highly explosive liquid. Unfortunately, it could not be used as an explosive for construction work as it was extremely unstable and exploded in an unpredictable and uncontrollable manner.

In 1863, the Crimean War having ended seven years earlier, the Russian army was no longer purchasing Immanuel's munitions and he was forced into bankruptcy again. He returned to Sweden with Alfred and with a second son, Emil; the other two sons, Ludwig and Robert, remained in St. Petersburg to take care of the family's remaining business there. Eventually Alfred became very wealthy; but his wealth was surpassed by that of the two brothers who remained in Russia and later founded the Nobel Brothers Naptha Company, which acquired control of the Baku oil fields.

In Sweden, both Immanuel and Alfred experimented with explosives. In 1863, Alfred received his first patent for an explosive he called "blasting oil." It was a mixture of nitroglycerine and gunpowder and was ignited by an ordinary fuse. His experiments still involved unstable explosives and, in 1864, his brother, Emil, and four associates were killed in a laboratory explosion.

Just one month after his brother's death, Alfred, at the age of 31, founded in Germany his first company to manufacture blasting oil. The company was quickly successful as its opening coincided with the large scale construction required by the railroad industry. A year later, Alfred invented the blasting cap to replace the fuse; this is the beginning of the modern detonator. In 1867, he invented dynamite, a mixture of nitroglycerine and a type of clay. Dynamite can be shaped into rods suitable for inserting into drilled holes. The detonator and dynamite were invented at about the same time as the diamond drill tip and the pneumatic drill. Together these inventions reduced drastically the cost of drilling tunnels, blasting rock, and performing some of the other operations required in major construction work.

Alfred Nobel traveled around the world founding companies and laboratories. He proved to be as brilliant a businessman and entrepreneur as he was an inventor. He

founded companies in approximately ninety different locations in twenty countries. He developed the holding company concept; he held the controlling stock in the companies but permitted them to run autonomously and encouraged them to compete with each other. He was constantly traveling to his various companies but maintained his primary residence and laboratory in Paris. By the age of forty, he was a very wealthy man. Victor Hugo described him as "Europe's richest vagabond." At the time of his death he had over 350 patents.

A year after the discovery of dynamite, Alfred and his father, Immanuel, were jointly awarded the Letterstedt Prize by the Royal Swedish Academy of Sciences for "important discoveries of practical value for humanity." Alfred was very proud of the prize and the wording is echoed in the description of prizes in his will.

Alfred lived alone. He was never in robust health and was something of a hypochondriac. He considered himself to be frail and sickly and complained of an unsettled stomach, headaches, and arthritis. His interests were much broader than his technical accomplishments. He was a humanist and philosopher with literary ambitions and interests. He wrote extensively on philosophy and the role of science. He wrote plays and poetry. He once described himself, "I am a misanthrope and yet utterly benevolent, have more than one screw loose yet am a super idealist who digests philosophy more efficiently than food." He was a religious agnostic and, in musings about why people had formed a conception of God, wrote, "Aristotle attributes it to fear, Voltaire to the desire of the more clever to deceive the stupid."

He had few close friends. In 1876, at the age of 43, he placed an ad in a newspaper "wealthy, highly educated, elderly gentleman seeks lady of mature age, versed in languages, as secretary and supervisor of household." For the position he hired an attractive and talented Austrian woman, Bertha Kinsky. She worked for Nobel about two months and returned to Austria to marry Count Arthur von Suttner. Alfred Nobel and Bertha von Suttner remained friends and maintained a correspondence for decades. She became prominent in the peace movement and it may have been her influence that induced Nobel to include a Peace Prize in his legacy. She herself won the Nobel Peace Prize in 1905.

Shortly after Countess von Suttner left him, Nobel hired a young twenty-year-old woman, Sofie Hess, to supervise his household. She was completely different from Bertha von Suttner, being vulgar and a little stupid, but pretty and kind-hearted. She almost certainly became his mistress. She lived with him approximately fifteen years and left to marry an Austrian military officer by whom she had become pregnant.

In 1891 Alfred left Paris to live in San Remo, Italy, where he died on December 10, 1896, at the age of sixty-three. Nobel's will attracted attention throughout the world. His was the first significant philanthropy aimed at supporting scientific work. In the will he specified who were to award the prizes:

The prizes for physics and chemistry shall be awarded by the

Swedish Academy of Sciences; that for the physiological or medical works by the Caroline Institute in Stockholm; that for literature by the Academy in Stockholm; and that for champions of peace by a committee of five persons to be elected by the Norwegian Storting (Parliament). It is my express wish that in awarding the prizes no consideration whatever shall be given to the nationality of the candidates, so that the most worthy shall receive the prize, whether he be a Scandinavian or not.

Nobel made a brilliant choice of executors, Ragnar Sohlman and Rudolf Lilljeqvist. Sohlman, a young engineer, had been Nobel's personal assistant for about two years and was intensely loyal to him although he stated that he never really understood Nobel's inner thoughts and feelings. Lilljeqvist, fifteen years older than Sohlman, had previously no close personal association with Nobel but had recently been appointed to establish a new Nobel plant in a remote area in Sweden. The two executors hired Carl Lindhagen, a member of the Swedish Parliament, as the legal adviser to the Nobel estate. The three were faced with three difficult problems: the first was to establish legal recognition of the will, the second was to overcome family claims to the inheritance, the third was to get the prize awarding institutions to accept their roles. Since Lilljeqvist was in a remote location, Sohlman and the attorney carried out the bulk of the negotiation. But Lilljeqvist did not permit any deviation from the instructions specified in the will.

None of the problems represented trivial challenges. Was Nobel French or Swedish - should the will be adjudicated in a French or Swedish court? France had a huge death duty; Swedish law was much less restrictive and the executors wanted the Swedish courts to adjudicate the will even though Nobel had lived most of his life in France. Five months after Nobel's death, the Swedish attorney general agreed that, after all negotiations and legal challenges were resolved, he would, on behalf of the Swedish government, approve and accept responsibility for the resultant agreements. The Swedish government reached this conclusion as much to keep the expected prestige of the prize completely in Swedish hands as because of the merits of the case. Nobel had lived only briefly in Sweden since his boyhood days.

Some members of the family, led by Emanuel Nobel, the son of Ludwig, one of the brothers who had remained in Russia, challenged the will. They demanded the right to manage Alfred's estate and to negotiate with the relevant institutions for awarding prizes. Sohlman emphasized to Emanuel that all the Nobel brothers had died and that Alfred's estate had inherited a controlling interest in the Nobel Brothers Naphtha Company. In return for purchasing the estate's share in the Naptha Company for a very favorable price, Emanuel agreed not to pursue the family challenge of Nobel's will.

The remaining problem was to have the award granting institutions, four of them, agree to administer the prizes. There were two reasons why the agencies presented difficulties and uncertainties. The first involved the inherent ambiguities and lack of direction in the wording of the will. The criteria for awarding the prizes were very broad and badly defined. The awards were for work which contributed to the benefit of

mankind during the preceding year. The awarding agencies would have to define "to benefit mankind," "preceding year," and to clarify the precise criteria for each prize. The second reason for hesitancy on the part of the agencies was less altruistic and more selfish. If agreement were not reached, the will would have to be nullified and the agencies could then argue that the funds should be used for their direct support, as that would obviously have been Nobel's wish.

To sort out the doubts and obstacles took almost two years. In April 1897, the Storting approved the will. It might seem surprising that the other three awarding agencies are Swedish but the Peace Prize is awarded by the Norwegian Storting. When Nobel wrote the will, Norway and Sweden were one united country. They separated peacefully into two independent countries in 1905. The members of the other three awarding agencies came to realize the enormous benefits that would accrue to them by accepting the terms of the will. They would instantly change their status from being largely ignored on the international stage to being center stage. In June 1898, the remaining granting agencies accepted the will.

During the following two years, the agreeing parties created procedures for putting the provisions of the will into practice. On June 29, 1900, King Oscar II of Sweden in Council promulgated the Statutes of the Nobel Foundation and the special regulations for the Swedish Prize-Awarding Institutions. In 1905, after the political union between Sweden and Norway was dissolved, the Nobel Committee of the Storting was created and adopted special regulations for the award of the Nobel Peace Prize.

Ragnar Sohlman, the executor, was the first director of the Nobel Foundation and retained that position for many years. The Nobel Foundation is a private institution that manages and protects the prize-awarding bodies in their common interests and concerns and represents them externally. It has established some general guidelines for the granting institutions to follow but plays absolutely no further role in the selection process. Some of the principles it has established may be stated. No self-nominations are permitted; except for the peace prize, nominated work must already be published; no protest may be lodged; a prize may be equally divided between two works, each of which would independently merit a prize; if a work has been produced by two or more persons together, the prize shall be awarded to them jointly; in no case may a prize be divided among more than three persons; a prize cannot be awarded posthumously; if, for some reason, a prize is not awarded one year, the prize money is reserved so that the prize for that year may be awarded the following year. If, even then, the prize cannot be awarded, the amount is added to the Foundation's restricted fund and used for study and research by members of the awarding agencies; all minutes and records remain sealed. In 1974, the confidential archive material that formed the basis for the prizes was made available for historical research if at least fifty years had elapsed since the decision in question.

Each year the Nobel Foundation plans and manages the Nobel festivities and related arrangements regarding the official granting of the prizes. In Norway, the Nobel Committee of the Storting makes corresponding arrangements. The prizes are awarded on December 10, the anniversary of Nobel's death, in simultaneous ceremonies in Stockholm

and Oslo.

In his will, Nobel instructed the executors to invest in safe securities. The original by-laws of the Board of the Nobel Foundation translated the phrase "safe securities" to mean bonds or loans paying fixed interest backed by solid underlying security such as property mortgages. Stock market investments and direct real estate holdings were not permitted. At its origin, the residue of Alfred Nobel's estate generated about 8.6 million dollars equivalent today to about 175 million. According to the agreement with the prize awarding bodies, about 5% of this sum was immediately divided among them to establish Nobel Institutes for study and research.

Because of the rigidity of the investments and the increasing burden of taxes, the value of the Nobel Fund and the size of the prizes kept diminishing. By 1950 the prizes had shrunk in real terms to about one-third their original value. About this time the fund was granted tax-exempt status and the government permitted a radical liberalization of its investment guidelines. The Foundation could now invest in stocks and in real estate. During the 1980s the stock market investments increased in value outstandingly and the value of the real estate holdings did as well.

By 1991, the Foundation had restored the Nobel Prizes to their 1901 real value. The 1901 prizes (given in American dollar equivalents) were each \$42,000. They diminished to a low of \$29,000 in 1945; there was a gradual climb to \$225,000 in 1980, and to about \$1,000,000 today. Part of the rise starting in the late 1960s came about because the Bank of Sweden augmented the fund when it founded a Prize in Economic Science. The total annual expenditure of the Nobel Foundation for committees, staff, nominators, consultants, and others is now approximately seven million dollars.

The tenth of December is the festival day of the Nobel Foundation and celebrated as a holiday in Sweden. It is the day the prizes are formally presented to the Nobel Laureates (as the prize winners are called). The Nobel Foundation has specified that at the actual awards ceremony, a Laureate receives a diploma, a medal, and a document confirming the prize amount.

A Nobel Lecture is given by each Laureate during the Nobel Week. His Majesty, the King of Sweden, presents the Nobel medal and diploma to the Laureates on December 10 at a ceremony in the Concert Hall in Stockholm. This ceremony is followed by a banquet for about 1300 people at the City Hall of Stockholm. At the same time a similar ceremony and banquet takes place in Oslo where the Peace Prize is awarded.

The gold medals given to the Laureates weigh approximately seven ounces and are about two and a half inches in diameter. One side of the medal features a portrait of Alfred Nobel; the other side has a symbol representing the prize-awarding institution. The name of the Laureate is engraved on the reverse for the Swedish prizes and on the edge for the Peace Prize. The diplomas are beautifully designed and bound and have a calligraphic statement that names the person or persons to whom the prize has been presented and a citation telling why. The Peace diploma does not include a citation.

Each granting agency appoints a committee of five members to make a recommendation as to who should be awarded the prize. Each member of a Nobel Committee receives a handsome remuneration for his service; this is part of the initial agreement between the executors of the estate and the agencies to induce them to accept their roles. The committee solicits nominations and then considers in its deliberations only persons who have been formally nominated. As an example, the nominators for physics and chemistry come from the following groups:

1. All members of the Royal Swedish Academy of Sciences.
2. Members of the Nobel Committee for Physics and Chemistry.
3. Prior Nobel Laureates in Physics and Chemistry.
4. Permanent and acting Professors in Physics and Chemistry at Swedish and other Nordic Universities existing in 1900.
5. Holders of professorial chairs in Physics and Chemistry in at least six institutions of higher learning in non-Nordic lands.
6. Other scientists invited by the Academy of Sciences to submit nominations.

In September of each year, the Committee will have decided from whom to solicit nominations and appropriate invitations will be sent them. All nominations are to be submitted by February 1. The Committee goes through the nominations and accompanying supporting documentation and reduces the number of nominees from perhaps several hundred to about twenty. Outside experts and consultants may be hired to assist and to advise the Committee. By the end of September, the Committee's decision and recommendation is given to the granting body. Usually, but not always, the granting body accepts the recommendations of the Committee. There have been notable instances where the granting body refused to accept the Committee's recommendations and made an entirely different choice of its own. The final decision and the public announcement are made in October.

In 1901, the Swedish institutions and the Norwegian Storting were barely competent to award Nobel prizes. The Swedish Academy (then as now 18 members) which awards the literature prize was completely conservative, moralistic, and moribund; immune and antagonistic to the modern trends and ideas in literature. The Royal Academy of Sciences (about 350 members) awards the prizes in physics and chemistry. In 1901, its largest membership sections were in zoology, botany, and medicine, and other members were interested in agriculture, ironwork, and museum keeping. It had just two members in physics; chemistry was combined with meteorology and had twelve members. The Swedish physicists eschewed theory in favor of instrumentation and precision measurements. Chemistry in Sweden was up to date in physical chemistry but not in organic chemistry. This is reflected in the fact that two of the first three chemistry laureates were physical chemists even though organic chemistry was a more mature area and had many recent discoveries.

The Caroline Institute's fifty members had experience in physiology but little in other branches of medicine in which important advances were being made. In Nobel's

will, physiology or medicine were combined as they were considered two branches of a single discipline.

Since Norway was united with Sweden in 1901, the Norwegian Storting had no experience in dealing with peace or with international relations.

During the first decades after the establishment of the prizes, procedures and customs were organized and clarified. Nominators learned what was expected of them and Committee Members learned and translated the vague strictures of the will into specific interpretations and practice. One of the first interpretations that evolved for all committees was essentially to ignore the phrase that stipulates the prize is for work done "during the year immediately preceding."

The Literary Committee provides an example of the interpretation of ambiguities in the will and the rocky development of procedures. The Committee had to understand the phrase "of an idealistic tendency." Did Nobel mean high-minded moral goodness or did he mean the opposite, that "idealism" meant a skeptical attitude to religion, marriage, and to the social order in general. Some people who knew him well argued that he meant the latter; certainly some of Nobel's attitude was skeptical and iconoclastic. He frequently wrote as if he were an enemy of all religious faith, even an out-and-out atheist. The original committee was dominated by conservatism and literary mediocrity; it had no difficulty interpreting the "idealism" to mean moralistic and favorable to religion, royalty, and to the established society. Later, Anders Österling, the permanent secretary of the Swedish academy from 1942 to 1970, deconstructed Nobel's thoughts. He interpreted them to say, "This so-called atheism is in reality very close to Platonism and Christianity." The conservatism of the early years is strikingly reflected in the choice of Laureates. Fewer than 25% of the literature laureates from 1901 to 1945 have maintained a stature in literature and a reputation for excellence. Except for Rudyard Kipling, the first dozen laureates are virtually unknown today. To illustrate the lack of boldness and adventure of the Committee in the early years, the following have not been honored: Mark Twain, Henry James, Henrik Ibsen, August Strindberg, Henry Adams, Thomas Hardy, Joseph Conrad, and John Dos Passos. Slowly the makeup of the Swedish Academy has changed and today it is very liberal and politics have become a consideration in awarding prizes. For example, during apartheid days in 1991, the prize went to Nadine Gardiner of South Africa for "her involvement on behalf of literature and free speech in a police state where censorship and persecution of books and people exist."

Early in its deliberations the Physics Committee decided to honor particularly particle physics or atomic physics. This precluded prizes in astrophysics and in geophysics. Some of the scientists not considered were Edwin Hubble, who discovered the expansion of the universe, Alfred Wegener, who discovered continental drift, and Vilhelm Bjerknes, who founded meteorological dynamics. Today astrophysics is included as a branch of physics but no geo-physicist has yet won a prize. The physics prize is specified to be for a person who has made the most important discovery or invention within the field of physics. There was immediately a predilection for experimental results over theoretical developments, a predilection that still exists. An

outstanding example of a theoretical or mathematical physicist who almost certainly deserved but did not win a Nobel Prize was Henri Poincaré of France. He received 34 nominations in 1910, perhaps the most that has ever been received; Einstein had only fourteen the year he won.

During the first years, Svante Arrhenius dominated the Chemistry Committee. He was an important, internationally known, physical chemist, a member of the Royal Swedish Academy, and a member of the Nobel Physics Committee, but not of the Chemistry Committee. He steered the Chemistry Committee towards recognizing physical chemistry over organic chemistry and he, himself, was the third chemistry laureate selected. He later used his influence to deny a prize to Mendelyev, the Russian chemist who had first described the periodic table of the elements. Mendelyev had criticized some of Arrhenius's early work and apparently this was neither forgotten nor forgiven. Eventually, as the Committee matured, a proper balance of the various branches of chemistry was achieved.

In Alfred Nobel's time, physiology meant the study of health problems in the laboratory instead of in the clinic; medicine meant its study and practice in the clinic. The makeup of the membership of the Caroline Institute helped physiology dominate the Nobel Prizes during the first three decades. The Institute now honors the complexity of and advances in modern medicine.

There are today approximately 300 Laureates in the sciences. Almost all the awards are well deserved - for a single moment of inspiration and accomplishment, for a lifetime of achievement with at least one outstanding discovery, for the success of a well planned and executed experimental program, or for a completely serendipitous experimental result. For a variety of reasons, many deserving scientists have been overlooked and some less deserving ones have won prizes.

A change in interpretation and emphasis has also occurred in the Peace Prize. Nobel's will clearly suggests that the prize is for the promotion of peace between nations. From about 1960, the Prize also began to emphasize efforts for peace within a nation. Today the Peace Prize seems highly politicized. Jimmy Carter was awarded the prize in 2002. Gunnar Berge, the committee chairman of the Peace Committee, agreed publicly that awarding it to him this year was intended at least partially as a criticism of President Bush's policy on Iraq to which Carter had objected.

In 1968 the Central Bank of Sweden celebrated its 300th anniversary by establishing a new Nobel Prize, a prize in economics. The Bank guaranteed to match the value of the existing prizes and it made a substantial contribution to the general fund of the Nobel Foundation. The Swedish Academy of Sciences agreed to adjudicate the awards applying the same general rules to cover this prize as it is using for the others. The prize is officially not called a "Nobel Prize" but is the "Central Bank of Sweden Prize in Economic Sciences in Memory of Alfred Nobel;" the usual designation is the "Nobel Memorial Prize in Economics." There was considerable opposition towards accepting the inclusion of this prize along with the Nobel Prizes. What helped convince the Foundation was the claim that economics was becoming an "exact science" like physics and chemistry rather than a "soft" science like sociology or anthropology.

Economic theory was beginning to use mathematics and statistics. Economists themselves have debated whether the economic theories are worthy of Nobel Prizes.

Among those who have suggested abolishing the Nobel Memorial Prize in Economics are the Economist Laureates, Gunnar Myrdal, Friedrich von Hayek, and Amartya Sen. The Nobel Foundation has since established the policy of not accepting another Nobel Memorial Prize.

It is appropriate at this time to state one of the great laws of physics. Isaac Newton's third law of mechanics says that to every action there is an equal and opposite reaction. More than a century has passed since the first Nobel Prizes were awarded; more than a decade has passed since the first Ig Nobel prizes were awarded. The Ig Nobel prize was founded and organized by the publishers of the magazine, the Annals of Improbable Research (AIR). The Annals of Improbable Research is a humor magazine of science, medicine, and technology. It is known for genuine science, deadpan satire, and the Ig Nobel prize. About a third of its articles describe genuine research, a third is concocted, and about a third of the readers cannot tell the difference. The first Ig Nobel prizes were awarded in 1991. The selection criteria are simple. The prizes are for "achievements that cannot or should not be reproduced." This says nothing about whether an achievement is good, bad, indifferent, pernicious, or commendable. The awards are presented each October in Cambridge at Harvard University's Sanders Hall Theater before a standing room only audience of about 1200.

Since Ig Nobel prizewinners tend to be less well known than are Nobel Laureates, some of the winners and their accomplishments are listed.

The 2002 Ig Nobel Economics Prize went to executives and auditors of Enron, Global Crossing, Arthur Anderson and certain other companies for adapting the mathematical concept of imaginary numbers to the business world.

The 2001 award for technology went jointly to John Keogh and to the Australian Patent Office for their granting him a patent. He was awarded an innovative patent for, as he described it, a "circular transportation facilitation device." In short, he was awarded the patent for the invention of the wheel.

The 2001 Ig Nobel Biology Prize was won by Buck Weimer for inventing Under-Ease, airtight underwear with a replaceable charcoal filter that removes bad-smelling gases before they escape.

The 2000 Ig Nobel Peace Prize went to the British Royal Navy for ordering its sailors to stop using live cannon shells in exercises and to instead just say, "Bang."

The 1999 Ig Nobel Chemistry Prize was won by Takeshi Makino of the Safety Detections Agency in Osaka, Japan, for his involvement with S-check, an infidelity detection spray that wives can apply to their husbands' underwear.

All awards except those given in 1991 are for work actually accomplished. The winners travel to the awards ceremony at Harvard at their own expense and the prizes are given them by a group of genuine and genuinely bemused Nobel Laureates. Every year,

the ceremony has a new theme (In 2002, it was "jargon.") and an original opera based on the theme is sung, usually by Harvard students. The ceremony is filled with a number of other inconsequential events. An example is the 24/7 seminars. At these seminars seven of the world's leading thinkers explain their theses twice. First they give a technical talk, lasting 24 seconds; following this presentation they give a clear summary that anyone can understand, in 7 words. The two days following the ceremony are celebrated at Harvard and MIT with public lectures on literary and scientific subjects; lectures that are improbably funny and informative.

The Nobel and the Ig Nobel, the sublime and its parody. Bless them both!

Suggestions for further reading:

1) "The Nobel Prize: The First 100 Years" edited by Agneta Wallin Levinovitz and Nils Ringertz, Imperial College Press, London, and World Scientific Publishing Company, Singapore, 2001.

2) "The Politics of Excellence: Behind the Nobel Prize in Science" by Robert Marc Friedman, Henry Holt and Company, NY, 2001.

3) "The Nobel Prize" by Burton Feldman, Arcade Publishing, NY, 2000.

4) There are many Internet Sites related to the Nobel and Ig Nobel Prizes.