

Nobel

UNIVERSAL LANGUAGE

Milan Randić

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mrantic@msn.com

Dedicated to my wife

Dr. Mirjana Randić

And

The whole Medical Profession

For their dedication to help people,

To reduce human suffering and agony of pain,

To eliminate the scourge of epidemics from the globe,

To improve health and quality of life, and to prolong our lives.

Foreword

Nobel, Universal Language, by Professor Milan Randić, one of the leading experts in the field of computational chemistry with great international experience, is a carefully structured description of a universal pictographic language designed to contribute to simpler and more effective human communication. The design of any artificial language is a complex task encompassing a multitude of intricate issues which need to be resolved in order for the language to function efficiently. The development of Nobel and its description is the result of undeniable enthusiasm and many years of dedicated effort: the language is presented in the form of a thorough and systematic manuscript dealing with the linguistic as well as philosophical issues.

The book covers all aspects of Nobel: from the basic signs and arrows, to their combinations and the particulars of the more complex semantic units, as well as the grammar of this constructed language. An illustration of the use of Nobel is provided by the translation of 100 Chinese proverbs from English into Nobel.

Some of the features of Nobel make it particularly accessible to wider audiences; these include the relatively small number of its basic signs (approximately 120), its fairly simple grammar, the nature of the design of the individual signs (they are designed in such a way that they are easy to identify and reproduce) and the fact that in addition to new signs, conventional (mathematical) symbols are also included. A further characteristic of Nobel which is intended to ease the recognition and memorization of the signs is that the design of the signs relies on mental associations and etymology. The limitation of the possible combinations of signs to a maximum of three signs makes the language even more transparent and accessible.

On the whole Nobel is constructed following both the principles of linguistics and the method of the hard sciences: the vocabulary, syntax, semantics and even discourse features of the language reflect an efficient and logical approach used in the process of its structuring.

The use of pictograms has been a fixture of human communication since the first written records; the earliest writing systems (Mesopotamian, Sumerian, early Egyptian, early Chinese) were in fact at least in part based on pictography and even in non-literate societies, some form of pictographic tradition was often present. In contemporary western societies the presence of pictograms is ubiquitous (labels, public signs, instructions) although its importance is often overlooked. Nobel is a systematic attempt to organize and present the pictograms in the form of a standardized language

The manuscript presents a brave, serious and enthusiastic attempt to develop a universal pictographic language, the aim of which is to be available to each and every representative of contemporary civilization. This puts the author in the ranks of great philosophers, such as Ramon Lull and Gottfried Leibniz, who undertook similar tasks. The dedication and seriousness of the enterprise has already been noted, among others by

Umberto Eco who, in his book *The Search for the Perfect Language*, mentions Nobel and its author. In his discussion of the visual alphabets of the present day, Eco observes that many of these are not true languages because they lack a grammatical component. Yet, as Eco points out, Milan Randić's Nobel is different in the sense that it entails two sets of conventions: those governing the meanings of the basic signs and those governing the meanings of combinations.

It is difficult or even impossible to speculate about the chances of any constructed universal language to reach wider audiences and in fact fulfil the task it was designed for, i.e. to ease communication, since there are many factors which may influence the turn of events. The fact that Nobel is a pictographic language makes it more accessible and it is interesting that the author himself points out several potential uses of Nobel which have been suggested to him (including such diverse uses as an aid in the process of the recovery of post-stroke patients who temporarily lost knowledge of writing and communication, or as a form of shorthand used in conference interpreting). It is clear, however, that regardless of whether the language achieves wider diffusion or not, the complexity of the work presented in the manuscript, the methodological approach used and the international recognition it has already received all testify to the importance of this undertaking. I therefore strongly recommend the manuscript for publication.

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About Nobel

Nobel is pictographic language based on some 120 basic signs and many arrows of different shape that are mutually combined. It is named after Alfred Nobel (1833 – 1896), Swedish chemist and industrialist, inventor of dynamite, who left most of his fortune to a foundation that annually gives awards to individuals whose work is characterized as "greatest benefit to mankind," known as Nobel Prizes. Besides the awards for sciences and literature significantly Alfred Nobel among other included also Prize for Peace (that besides individuals also organization may obtain). Although it would be utopian to believe that human conflicts could be avoided if communication tools would improve the emergence of universal languages certainly cannot make the situation worse!

Universal languages are communication tool, which makes possible for people of no common language to communicate. They are graphic but they should be distinguished from picture writings, which only passively offer information on some event or give messages. Universal languages have more similarity with the sign languages that are used for people who loss hearing or the sign language of American Plane Indians, who spoke different languages and could, communicated by sign language that they developed. However, written language have some advantage over hand sign languages in that one can communicate at a great distance, particularly today in the age of FAX and computer communications, and that one can leave messages for posterity.

This is not the place to argue for or against the promise of written sign languages. Graphic (written) sign languages exist today and the best-known are Chinese Characters used in China and Japan. The problem with Chinese Characters is that there are too many characters and it is difficult to learn so many. It takes years for children in China and Japan to learn so many different characters, and the task would be even harder for grown people to learn if they have not done this when young. Nobel is designed to remove this difficulty and is based on the following requirements:

1. SMALL NUMBER OF BASIC SIGNS
2. SIGNS SHOULD BE EASY TO RECOGNIZE
3. SIGNS SHOULD BE EASY TO REPRODUCE
4. COMBINATIONS LIMITED TO THREE SINGS
5. COMPLMENTARY

We have already mentioned that Nobel uses about 120 basic signs, which can be viewed as small number, particularly in view that over 100 signs of Nobel are so obvious that can be easily absorbed. The other requirements are also very important. There are many signs that can be easily recognized but in order to be acceptable for Nobel they also need not be easily reproduced, because that will facilitate communication. Also when making

combinations of signs one has to make some restriction in order to maintain clarity, so we decided to have no more than three signs combined into single word. Finally, the last requirement that of complementarities needs some explanation. Besides having signs that one can easily recognize and easy to draw one need some *structure* to be embedded into composition of signs that facilitates one to remember and learn signs easily. We refer to this structure as complementary or broadly speaking association and what it implies is that words and objects that are related should have related signs. Thus for example pairs of words like man-woman, cat-dog, coffee-tea, good-bad, love-hate etc. should have signs that are in some opposition, while words like smoke-flame-fire, tree-wood-forest, water-sea-ocean, good-better-best, should have signs that are in competition.

With this in mind when one see and learns the basic signs the meaning of many combinations of signs can be in advance anticipated. This helps one to learn Nobel rather fast, not months, not weeks, perhaps not even days, but couple of hours may suffice that one may learn hundreds and hundreds of words. In this respect Nobel may be unique among languages written, spoken or gesticulated. Soon you will have an opportunity to see for yourself whether this author is exaggerating or not in the promotion of Nobel. We may add also that for artificial languages, whether spoken (like Esperanto, Interlingua and such) or written (like Nobel and Blissymbolic) the major difficulty is to build sizable vocabulary, while grammar usually represents a minor task – Nobel is not an exception. Sizable vocabulary is essential if one is interested in communications that go beyond concerns of mere survival – or as Ukrainian writer Vladimir Dmitrievich Dudintsev (1918-1998) entitled his book, if one aspiration is “Not by Bread Alone.”

About the Author

Milan Randić is Professor Emeritus of Drake University, Des Moines, Iowa, where he was Ellis and Nelle Levitt Professor in the Department of Mathematics and Computer Science during 1980-2000. He studied Theoretical Physics at University of Zagreb, Croatia and got Ph D. degree at Cambridge University in England in 1958. His research interest has been Theoretical Chemistry. He founded Group for Theoretical Chemistry at the Institute Rudjer Bošković, Zagreb, Croatia. He came to USA in 1970 where he continued research in Theoretical Chemistry and soon entered the field of Mathematical Chemistry and of recently Bioinformatics. He published over 450 scientific papers. He received in 1995 The Iowa Governor's Science Award and in 1996 the Skolnik Award of the American Chemical Society. He is a member of the Croatian Academy of Science and Arts since 1998. In 2005 he founded the International Academy of Mathematical Chemistry with the seat in the old town on Adriatic, Dubrovnik. In 2007 was elected as Honorary Fellow of the International Academy of Mathematical Chemistry and Honorary Member of the National Institute of Chemistry, Ljubljana, Slovenia. Twenty-five years ago he was visiting for several for weeks China and spent several weeks in Japan and became intrigued by Chinese characters and Japan's Kanji. Already during this brief visit to Japan he started to explore possibility to develop graphic universal signs the distinct feature of which is to be simplicity in contrast to apparent complexity of Chinese characters. Before returning to USA he already came up with about 100 signs, which is the number of Kanji that children in Japan have to learn in their first year in school. On return to USA he continued to expand sign language, which gradually grew to encompass some 20,000 words.

INTRODUCTION

From prehistoric times human have been leaving messages in written form either as cave painting or petroglyphs. With passage of time these graphic signs multiplied and have eventually lead to picture-writings that were perfected by ancient Egyptians in hieroglyphic messages and hieroglyphic “alphabets” in the time of Pharaohs. Similarly more involved and at first sight more cumbersome hieroglyphs of Maya have similarly evolved in a phonetic alphabet, which is clearly more efficient way for keeping records of past events than would be picture-writing. Thus in both cases at vast distances over the globe hieroglyphic writing eventually reduced to hieroglyphic script. On the other hand American Indians continued to use picture writing till modern times. One may speculate that this may be not only due to lacking a script of their own but also because of continuing contacts with people of different tongue. Similarly none of people of hundreds of dispersed Polynesian islands, speaking different languages, have script of their own with exception of Eastern Islands who have a writings using some 2000 different mysterious Rongo Rongo glyphs. Not long ago Steven Roger Fischer, German scholar now heading the Institute for Polynesian Languages in Auckland, New Zealand, succeeded not only to decode these glyphs but to trace possible origin of writing on Eastern Islands to brief disembarkation of Spaniards in 1700s on that island. Spaniards asked native chiefs to put signs on a Spanish document, which proclaimed the island a part of Spanish Empire. Having no script of their own and requested for a written “signature” native chiefs thus invented some signs of their own, which eventually may have been the seeds for construction of 2000 Rongo Rongo glyphs.

Universal language as a system of signs for the communication today exists in the form of Chinese Characters that essentially have not changed over 4000 years. This is however, not the only living universal language. We should mention Tompa, an interesting and little known pictographic language used by people in the mountain regions of Yuiin Nan Province of China not far from the general area of Tibet, Thailand, Laos, Vietnam and Myanmar (Burma).

We should also mention attempts by several scholars in 17 and 18 century to develop artificial universal language, which were of two different basic types: (1) Based on abstract signs under influence and imitating in spirit Chinese characters but trying to arrive at some simplified versions thereof and (2) Based on classification and sub-classification of all things to which numerical values were attached. In this case communication would be based on writing numbers that could be decoded with a list of codes, which would be written for different languages. Among these we would like to specially mention briefly approach of Leibniz, a great German philosopher and mathematician. Leibniz has first separated integers in the prime and the composite. The prime numbers are 2, 3, 5, 7, 11, 13, etc, numbers that are divisible only by itself or by one if the division is to give as the answer an integer. The composite number may have several additional divisors. Thus non prime numbers are first all even numbers like 4, 6, 8, 10, etc and than any number that can be divided by an integer to give integer as the answer. For instance $21 = 3 \times 7$, or $57 = 3 \times 19$, hence both are composite. Notice that

zero and one are neither prime nor composite, you may say they are special! According to Leibniz prime numbers should be assigned to important concepts (words), while composite numbers are assigned to less important, derived concepts. So here are suggestions of Leibniz:

- 0 Void
- 1 God
- 2 Life
- 3 Reason

Now since $2 \times 3 = 6$ Leibniz assign 6 to Human person, which is a life with reasoning potential. Unfortunately Leibniz started his work on his Universal language near the end of his life and never developed it much further.

We should end this brief overview of universal languages by mentioning Bliss, and Austrian Jew who was fortunate to escape from Austria in 1940 when Nazi occupation started and move to Australia. There for twenty years Bliss was developing his universal language, which became later known as Blissymbolic. Bliss designed a relatively simple set of pictographic symbols that can be combined and used for everyday communications. Neither we have time nor space to expand on any of the above mentioned universal and pictographic sign systems but collectively they show that it is possible to have universal graphic language and that one can express most of one's ideas into such graphic forms that ought to be comprehended by people of different language backgrounds.

We selected few books for further reading for those who want to pursue the above topics at greater length.

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PART 1

BASIC SIGNS































Basic Signs – Obvious







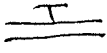







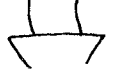





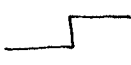









Let us start by depicting the first set of 60 basic signs of Nobel. We have ordered signs alphabetically. First thing we want to point out is that one should observe the simple nature of signs, which consist of few simple strokes, circles or curves, which anyone should be able to reproduce. The next thing to observe is that if you would be presented with the same list of 60 words and asked to draw the corresponding signs that probably more than half of the signs that you draw will be the same as those listed on the next pages. There may be few signs for which slightly different diagrams are possible, the one adopted in Nobel aimed at utmost simplicity.

The signs on the next two pages represent approximately half of the signs of Nobel. Later we will show another 60 signs that constitute the other half of the basic signs of Nobel. The signs selected here have simple characteristics: they are easy to be recognized, - hence the title of this section: Basic Signs – Obvious, which was the only criterion used at this early stage of exposition of Nobel. Clearly not all the 60 words shown are equally important, or important at all. This could be said of BUTTON, CLAW, DIAMOND (unless you are a girl to be married soon!), GATE (except for those visiting the western style bars, or watching western movies), and SOMBRERO (again except for people of Mexico, of course).

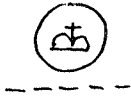
Few signs are associated with double interpretation, the first is pictographic or literal and the second is ideographic or figurative, based on one of the dominant properties of the shown sign. Thus ANCHOR symbolizes *safety*, particularly for ships, BALANCE is a symbol of *justice* as many Court Houses display, BUTTON symbolizes something that is *automatic*, from the early medieval times CROWN has been the symbol of *authority*, DIAMOND is the *hardest* natural substance, FENCE stands for *keep*, FLOWER is very *delicate*, HEART is symbol of love or to *like* something, PIPE & VENT allow one to *control* (a flow, or people, work, etc), ROOF suggest *domestic* environment, SCISSORS imply *cutting*, SOMBRERO gives good *shade* (which is the literal English translation from the Spanish), STAR may also symbolize *decoration*, UMBRELLA is supposed to *protect* one (from rain), while WATCH measures *time*, and of course. Thus to the 60 depicted words we have to add 15 ideographic interpretations which slightly increases our vocabulary.

To learn 60 words or more of a new language is not much, but to learn it in 15 minutes illustrates the important quality of Nobel – very close relationship, either pictographic or ideographic, between the signs and their meaning. If by now you may think that all that you accomplished is to become acquainted with 60 words of Nobel, or to be precise 75 words, without much effort, of course, this is an understatement because you can combine the 60 basic words and arrive at least as many novel words of Nobel, as illustrated on the pages that follow.

				
ANCHOR	APPLE	BALANCE	BALL	BASKET
				
BED	BIRD	BODY	BUTTON	CHAIR
				
CLAW	CLOUD	CROWN	DIAMOND	DIRECTION
				
DOOR	EYE	FACTORY	FENCE	FISH
				
FLOWER	FOLDING TABLE	FOOD	GATE	GRASS
				
HAIR	HAT	HEART	HOOK	HOUSE

				
LEGS	LETTER	MONEY	MOUNTAIN	PATH
				
PICTURE	PIPE & VENT	PLATE	PODIUM	POSTER
				
PRISON	ROOF	SCALE	SCISSORS	SHIP
				
SMOKE	SNAKE	SNOW	SOMBRERO	STAR
				
STEP	SUITCASE	TABLE	TARGET	TIME
				
TREE	UMBRELLA	WATER	WHEEL	WINEGLASS

Below we have listed with appropriate comments combinations of signs. The combinations are listed in the alphabetical order.



ACCOUNT – *path of money* (money trail)



ADDICT – *body that is hooked* (on drugs)



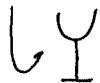
ADMIRE – *heart on a podium*



AIM – *eye over target* (goal)



AIR MAIL – *letter and bird*



ALCOHOLIC – *hooked on a glass*



ALREADY – *time has come*



AMBITION – *many projects ahead*



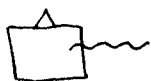
ANACONDA – “emperor” snake (the largest snake), hence two crowns above a snake



APPLE PIE – *apple basic cake*



APPOINTMENT – *official (hence crown) time*



AQUARELLE – *picture with water colors*



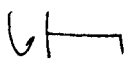
ATTRACTIVE – *lovely body*



AWARD – *decoration by judgment*



BATH – *body in water* suggests having a bath



BEDRIDDEN – *hooked to the bed*



BEER – *drink (wineglass) with smoke (i.e., air bubbles) inside*



BIRD OF PREY – *bird with a claw*



BLOOD – *liquid (water) of heart*



BLOOD MONEY – *money (coin) associated with blood*



BLOOM – *flower of a plant (tree)*



BLUE BLOOD – *royal blood, hence crown and blood*



BONE – *hard (diamond) inside a body*



BREAD – *basic food*



BRILLIANT – *cut diamond*



CAKE – *sweet food*



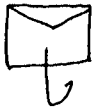
CANDID – *heart on a table*, so everybody can see what is inside!



CENSORSHIP – *cutting* (content of a) *letter* (as was the case during WWII under German and Italian occupation)



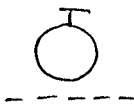
CESAREAN – *cutting pregnant woman*



CHAIN LETTER – *letter* with a *hook* symbolizing one is caught in an activity



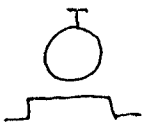
CHARACTER – *path of heart*



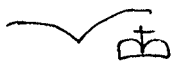
CHRONOLOGY – *path of time*



CIDER – *apple juice* (water)



CLOCK – *watch* (time) on a *podium* suggesting visibility



CREST – *bird crown*



DEEP – *walking under water* suggests depth



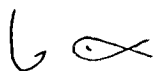
DIAMOND – *hard* and very valuable (which is suggested by *crown*)



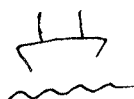
EAGLE – *mountain bird*. There are many birds in mountains but eagle is most visible!



FICTION – something *hooked* in a *cloud*, which means that it does not have a firm basis



FISHING – *hook* and *fish*



FLOAT – *ship over water*



FOOTBALL – *legs* and a *ball* (represented by tennis ball for a better recognition, though it represents any ball)



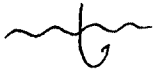
FOOTPRINT – *path behind legs*



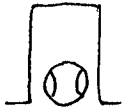
FRONT – part of *body* that *eye* can see



FUTURE – time in front of us, hence *time ahead* of legs



GLUE – a *liquid* (water) with a *hook*



GOAL – a *ball* in a *door*



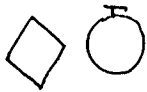
GOODBYE – *friendly leaving*



HAIRCUT – *cutting hair*



HARDHAT – *hard hat*



HARDSHIP – *hard* (diamond) *time*



HEART SURGERY – *cutting* (scissors) *heart*



HEDGE – *tree fence*



HUNTING – *hook follows a path*



IMPEACHMENT – *authority (crown) under justice*



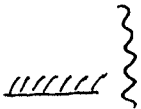
IN LOVE – *heart that is caught in love, hence hooked heart*



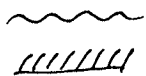
LODESTONE – *(magnetic) stone, stone that catches metal things, hence stone with a hook*



LOYAL – *person who loves (heart) authority*



MARIJUANA – *grass and smoke*



MARSH – *water over grass*



MEAL – *time for food*



METHOD – *a path to reach a goal*



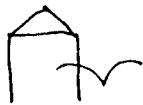
MIRACLE – *walking* on water, hence *legs over water*, (biblical story)



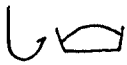
MISER – person *hooked* on *money*



MOW – *cutting grass*



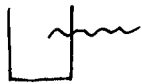
NEST – a *house* of a *bird*



OBESE – *hooked* on *food*



OFFICIAL LETTER – *letter* from *authority* (represented by crown)



PAIL – *basket* for *water*



PARTY - *friendly drinking*, of course not all parties offer drink but many do



PAST – time behind us, hence *time behind legs*



PERMANENT – something *hooked* in *time* (watch)



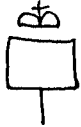
PIE – *basic cake*



PORTAL – the major entrance, hence *crown* above *door*



PREGNANT – *body* inside *body*



PROCLAMATION – *official* (authority, crown) *poster*



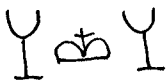
PROJECT – goal ahead, hence *goal* in front of *legs*



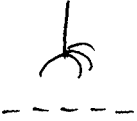
PUBLIC KNOWLEDGE – *letter* on a *podium*, hence public,
available to anyone to see



PUZZLE – *picture* that is *cut*



RECEPTION – *official drinking*, of course not all receptions offer
drink but most do



SCRATCH – *claw path*



SEAM – *path of scissors*



SENSITIVE – *balance over a heart* suggesting continuing weighting responses



SHALLOW – *walking in water* that is below knees suggest shallow water



SOUP – *liquid in a plate*



STANDARD – *scale on podium* (i. e., public)



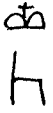
SUCCESS – *goal achieved, hence goal behind legs*



SURGERY – *cutting* (hence, scissors) a *body*



TEAR – *water under an eye*



THRONE – royal chair, hence *crown* above a *chair*



TRADITION – *future* follows the *past*



TWINS – *two bodies* inside a *body*



VACATION – *travel* (suitcase) we *love* (heart)



VALUE – *time* and *money* are very valuable, hence they are combined into a single sign



WAKE – *ship path* (trace)



WATER LILY – *flower* of *water*



WELCOME – *friendly* (heart) *coming* (legs)



WINNING STRATEGY – *path* of *success*

As one can verify we have added almost hundred new words (98 to be exact). We have already mentioned that our first goal is to build a *sizable* vocabulary of Nobel. After that we will illustrate use of Nobel on short textual material, which will demonstrate sentence constructions and some rudimentary grammar necessary for writing brief or longer messages. Separately we will compile the words appearing in this book. Some 3000 words, in an English-Nobel Dictionary and will also organize words of Nobel into a COMPARATIVE DICTIONARY, which words using the same signs are grouped together. This will assist readers to memorize words by comparing similarities in their construction. The Comparative Dictionary will assist readers in “decoding” messages written in Nobel we will compile words based on dominant signs. Finally to facilitate writing messages we will end this introductory presentation of Nobel with a Dictionary of Nobel, which will include some 1500 words. This should suffice for elementary needs in communication between parties having no common spoken language.

We proceed with outline of several basic constructive steps that allow growth of the vocabulary of Nobel doubling the already doubled number of initial basic sign words. In continuing we want to emphasize the educational merits of Nobel, which is not to promote ignorance, superstition, bigotry and arrogance. The basic constructive operations include OVERLAP of signs, DUBLING of signs, TRIPLING the signs, signs INVERSION, CROSSING of signs, construction of RECIPROCAL and FRACTIONS, and MODIFICATIONS of a selection of signs. To this repertoire of operations we have to add a set of various ARROWS that are combined with signs to add novel interpretation to signs. Then we will introduce another sixty signs that need some introductory comments. They will also be found to have a close pictographic or ideographic connection with signs used and will not require much effort to learn them. To this list of some 120 signs we will add some twenty signs, including the question mark “?” that are widely used even if few from taken mathematics may not be known to everybody. Finally we will introduce *half a dozen* signs that may have a less apparent connection with the content they represent – but half a dozen new signs are not a tall order by any standards.

Overlap of signs – double overlap

By making overlap of signs we have opportunity to expand the original meaning of a sign to a related concept that correspond to overlap of the corresponding object literary or figuratively as is illustrated below:



ADAMANT – overlap of *diamond* (hard)



BENCH – *chairs* that are overlapping form a bench



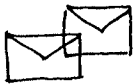
BOUQUET – *crossing flowers*



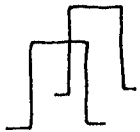
CLOUDY – overlap of *clouds*



CONNECTION – overlap of *hooks*



CORRESPONDENCE – overlap (exchange) of *letters*



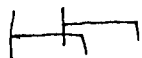
CORRIDOR – corridors have many doors, hence overlapping *doors*



DAY – is shown as overlap of *time* (hours make day)



DISHES – overlapping *plates* are taken as sign for dishes in general



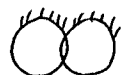
DORMITORY – overlap of *beds*



FIRM – overlapping *hard*



FRUIT – apple is the most common fruit, thus overlapping *apples* are



HAIRY – overlapping *hair*



INDUSTRY – overlap of *factories*



INSTRUCTIONS – numerous (overlapping) *directions*



LIQUID – to distinguish from water, the most common liquid, we use overlap of *water* as sign for liquid



LOVING – overlapping *hearts*



LUGGAGE – overlapping *suitcase*



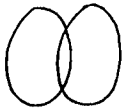
MARCHING – overlapping legs suggest marching



MOUNTAIN RANGE – overlapping *mountains* form mountain range



MOVIE – is literary produced by overlapping *pictures*



NATURAL – *natural* procreation of anything living is accomplished when overlapping bodies are parallel



NEIGHBORHOOD – overlap of *houses*



PARK – overlap of *trees*. Parks have a mixture of trees and plants



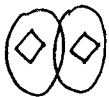
PROTECTION – umbrella protects against rain, overlapping umbrellas suggest more general protection



SHELTER – overlapping *roof* over head offers shelter



SIMULTANEOUS – overlapping in *time* suggest something happening the same time



SKELETON – overlap of *bones*

Overlap of signs – triple overlap

Constructions based on overlap of already overlapping signs offer additional signs illustrated below:



ABUNDANCE – lot of fruits, overlap of *fruits* means abundance



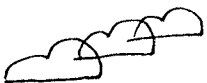
ARBORETUM – various parts of arboretum can be viewed as park, hence arboretum represents overlap of *parks*.



INDUSTRIAL ZONE – overlapping *industry*



NETWORK – overlapping *connections*, i.e., many connections make a network



OVERCAST – very *cloudy*



WEEK – overlapping of *days* makes a week.

Exceptions – quadruple overlap

There is a saying that every rule has an exception. The rule for construction of combinations of signs in Nobel is that no more than three signs are combined into a new sign representing novel concept. We will try to respect that rule avoiding thus

construction of cumbersome signs combinations that may be confusing. In addition construction of such signs may also be time consuming and take unnecessary efforts. However, rules may have exceptions and one such exception is illustrated below:



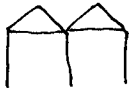
GLUT – overlapping *abundance*

Touching of signs - double

We have already seen how doubling of signs and overlap of signs allow construction of signs for words that are related to the parent sign. In addition positioning of double or overlapping signs allows further expansion of vocabulary. Thus, as we have seen, the signs of overlapping *time* lead to sign for *day* (horizontal overlap) or sign for *simultaneous* (vertical overlap). To this we may add *touching of time* to mean *contemporary*, which means *at the same time* but not necessarily *simultaneously*. Similarly, by *doubling the sign of house* we obtain a sign for *village*, *overlapping of the signs of house* stand for *neighborhood*, while touching of the signs of house stands for *duplex*, a house that is divided in two parts, having two separate entrances and offering dwelling for two families. In the case of the sign of house touching of houses results in fusion of two houses. Duplex houses may be more common to towns, rather than villages, where houses tend to be isolated, at least in agricultural areas. However, duplex houses and even larger agglomerations of houses are not uncommon along the Adriatic coast, possibly for two reasons: (1) the area is arid and houses tend to be located away of areas that can be utilized for limited agriculture; and (2) for defense purpose villages tend to be away from the immediate coast and housed grouped. Thus my own grandparent's house was duplex, which gradually became 1.25 : 0.75-plex, when my grandmother start to support her neighbor, after her son disappeared (as a seaman) somewhere on Atlantic. Thus our house was increased by one room, while the house of our neighbor shrunk. After our neighbor died she left her house to my grandmother, which was the end of the duplex. Later my brother, who was an architect, transformed the duplex into a single house.



CONTEMPORARY = touching in *time*



DUPLEX – touching of two *houses*



KISS – touching of *hearts*



PROSPERITY – touching of *coins*



TOAST – touching of *glasses*

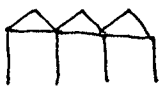


TOUCH – touching of *bodies*

Before continuing let us comment on the sign for *prosperity*, shown as *touching money*. Before we have seen the sign for *prosper* shown as being *very successful*, that is, having many successes (goals behind). The two signs have similar meaning, but as one can find in many dictionaries “prosper” has two meanings: (1) to flourish, thrive, doing well; and (2) to succeed financially, economically. Hence the two variants for “prosper” in Nobel.

Touching of signs – triple

Finally, not often but nevertheless we can have three signs touching one another as illustrated below:



TOWNHOUSE – contiguous touching of houses

$W = 200$

We have been counting words for which we have signs and at this point, which is an early stage in presenting the Vocabulary of Nobel, we already have about two hundred words ($W = 200$). As we continue we will from time to time report on the word counts, merely to indicate the growth of the vocabulary. However we should be fully aware that many words that will be presented may not be word widely used in daily conversations. Typically knowing about thousand words of any language (with also knowing minimal grammar) may suffice for most of common conversations. This is not going to be with the first thousand and perhaps two thousand words of Nobel. At we come to those hallmarks one will realize that number of “important” words (that is words that may often be needed in communications) may still be missing. Language experts may object to such rather unusual, to say the least, approach to teach a language, but from our point of view at this early stage in becoming acquainted with Nobel it seems more important to catch “the spirit” of Nobel and discern the “hidden logic” of the language than to offer a platform for *common* conversations. We hope that in this way, **without much effort**, one will eventually learn to write messages and communicate in this graphical language. At the beginning, admittedly, the messages may be limited, but the burden of **memorizing** the signs will be minimal, as we try to provide sufficient background information for the signs introduced. Moreover, we may add to those who would like to arrive as fast as possible to minimal load of *common words* for *common conversations* that we are not in the business of the construction of a *common language*, but a *language*, which will allow communication at different levels.

I recall how many year back while spending three months in Tokyo I decided to start learning kanji, the Chinese characters that have been used in Japan since the time of their introduction in Japan about thousand years ago. The lovely book “Read Japanese Today” by Len Walsh (published by Charles E. Tuttle Co., Rutland, Vermont, 1969) was very helpful. I may have learned about 500 Chinese characters, which is about half of signs needed to be able to read newspapers (except of course that in Japan one would also have to learn 46 Hiragana and 46 Katakana syllable letters that are used for grammatical endings and foreign names, respectively). Then I met an Australian scholar who was also interested in learning Chinese characters, who asked me how many I have mastered. I said: “Around 500.” To this he replied: “This is the maximum that you will ever learn.” I was puzzled and asked how would that be possible? He then explained himself: “When you learn additional 50 kanji you will forget 50, so you will still know 500.”

He was right in the sense that after initial few hundred Chinese characters, which one can often see as signs over buildings, shops, streets, etc., one comes across characters that one does not see frequently, so they tend to be forgotten meanwhile. Here we have a sharp contrast between Chinese writings, which represent a universal language and Nobel, the novel universal language. In Nobel learning new signs and new combinations of signs reinforces the knowledge of the signs already learned. So after learning 500 Nobel signs not only that one can easily learn another 50 but for half of them one may

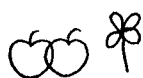
guess the meaning even before one is told! For some readers this book may be a kind of entertainment, some may take it more seriously. Be as it may, as we progress one will see not 200 but some 2000 signs, which one will be able to recognize and even memorize. Umberto Eco, the Italian writer best known for his book *Roses*, winner of the Nobel Prize for literature, in the book “*In the Search for Perfect Language*” on half a page briefly mentioned Nobel, and stated it as having 20,000 – word sign combinations. This is about ten times more than one need for daily communication. I would dare to say that one may expect to learn easily not 500 but 5000 – and the Nobel Dictionary of 20,000 (which is in preparation) is a mere edifice to show that one can arrive at relatively huge vocabulary starting initially with some 120 basic signs and some 60 arrows. We will, as we progress, introduced in later sections of this book all the signs and all the arrows, or perhaps to be more correct almost all 120 signs and almost all 60 arrows, but just as one can not climb top of high mountains in a single day, so we will also need couple of days to reach the top, but we will get there!

We will continue now with illustrations of some combinations of signs that overlap, of double and triple signs and their combinations with the already introduced signs.

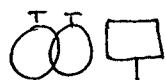
Combinations using overlap of signs



AGE – *time scale*



BLOSSOM – *fruit flower*



BULLETIN – *daily poster (information), hence day & poster*



CHRISTMAS – *day of decorated tree*



CONDOR – *bird of mountain range (Andes)*



GRAPE – *fruit that makes wine*



IMAGINATION – *overlap of fiction*



MAKE LOVE – *parallel bodies with love (heart), too much attraction*



RIPE – *fruit on a plate (if not ripe it would not be on a plate)*

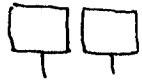


SAINT VALENTINE'S DAY – *day of love (February 14, the anniversary of beheading of St. Valentine by Romans)*

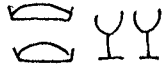
Doubling of signs

In spoken language word follows word forming a sequential string of words. Graphical sign language has advantage in that it can utilize 2-dimensional space and place signs not only sequentially but also one above another or at an angle and thus create additional modification for the meaning of the original sign, as we have already seen with overlapping signs (e. g., simultaneous time and contemporary time). We will see how use of two-dimensional space will enrich our vocabulary when constructing signs obtained by doubling. The same signs can be placed one next to the other or one above the other, i.e., in a *horizontal* or *vertical* mode. Of course, often it would be the matter or convention to assign comparable meanings of the parent sign to the vertical or

horizontal combination. In Nobel doubling of a sign is generally interpreted as meaning “much of,” “any of,” or “lot of.” We have ordered the signs alphabetically.



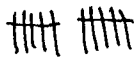
ADVERTISE – lot of *posters*



BANQUET – *lot of food*



BARRICADE – lot of *fences* one above other



BARRIER – *lot of fences*



BLOODSHED – *blood over blood*



CAPITAL – *money over money*



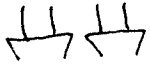
CAREFUL – lot of *weighing* (balance)



CELEBRATION – lot of *glasses* (wine)



CONSTELLATION – lot of *stars*



CONVOY – lot of *ships*



DECORATION – lot of “*stars*” (*star* over *star*)



ENTHUSIASTIC – is represented as *heart* above *heart*



FLAME – lot of *smoke* (reflecting folk saying: where is smoke there is a fire)



FLOCK – lot of *birds*



GALLERY – lot of *pictures*



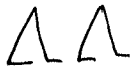
GOVERNMENT – lot of *authority* (authority = crown)



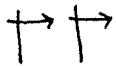
INFLUENCE – lot of *connections* (connection = overlapping hooks)



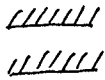
LOVE – lot of *liking* (like = heart)



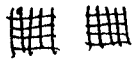
MARCH – lot of *legs*



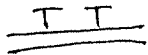
ORDER – lot of *directions*



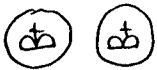
PASTURE – lot of *grass*



PENITENTIARY – lot of *prisons*



RESTRICT – lot of *control* (control = pipe and vent, hence a pipe with two vents)



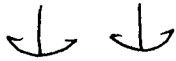
RICH – lot of *money*



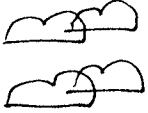
SCHOOL – lot of *fish*



SEA – lot of *water*



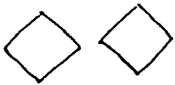
SECURE – lot of *safety* (safety = anchor)



STORM – lot of overlapping *clouds*



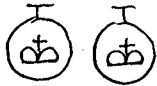
TENDER – *soft soft*, lot of softness



TOUGH – *hard hard*, lot of hardness



VILLAGE – lot of *houses*



WEALTH – lot of valuables, hence double *values*

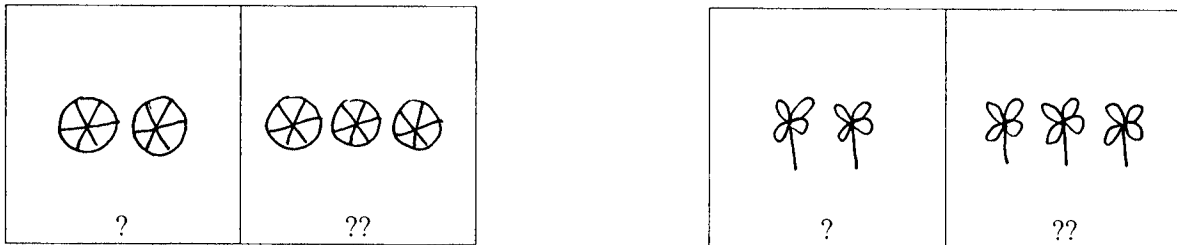


WOOD – lot of *trees*. Chinese character for wood is similarly obtained by using two tree signs

Challenges and Temptations

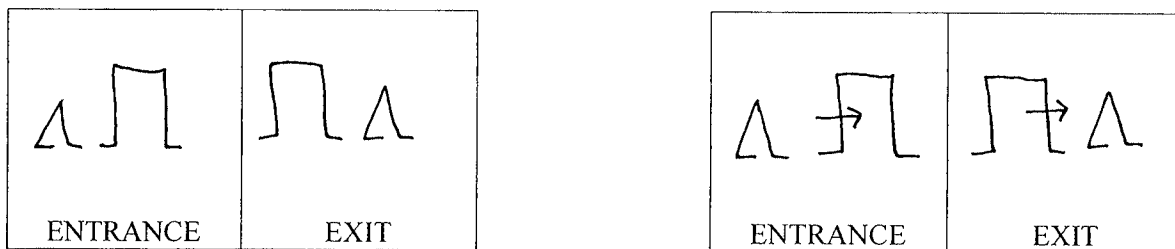
Combinations of signs form new words that are closely related to signs used. Challenges in creation of Nobel are words for which there are no obvious signs or

combinations of signs that would offer useful characterization for such words. On the other hand there one may be tempted to combine various signs creating words of Nobel for which there is no clear interpretation. Let us illustrate this on two rather common signs, that of a wheel and flower:

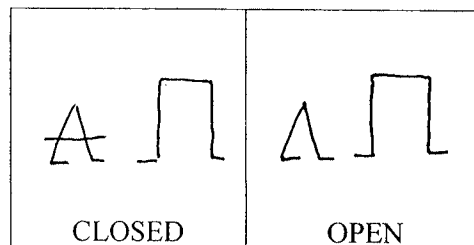
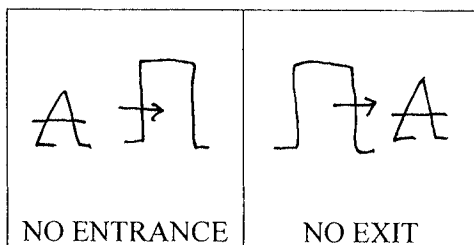


In the first case we have “lot of wheels” and “lot of lot of wheels” and in the second case we have “lot of flowers” and “lot of lot of flowers.” The question is: For what useful concepts the above signs can stand for?

One could for instance interpret “lots of wheels” as a train, and then “lot of lot of wheels,” which is tantamount to “lots of trains” as a railway. In a similar fashion one can interpret “lot of flowers” as flower garden and perhaps “lot of lot of flowers” as Flower Park. However, there are “lot of flowers” in florist shop and “lot of lot of flowers” in gardens of those who supply florists with flowers. In situation like this, when an outcome is not very clear and obvious, the best is to postpone the decision as introduction of additional signs may yield better solutions. Let illustrate this on another temptation, the signs shown below at the left:



In view that in Nobel the *left* stands for PAST and the *right* for the FUTURE it is understood that legs at the left of the door have not yet entered, while the legs at the right of the door, having door “behind” are exiting. Hence, there are no ambiguities and the two simple combinations of legs and door can represent entrance and exit. On the other hand if we only add simple arrow as shown in the alternative representations of ENTRANCE and EXIT on the right hand side of the above figure we obtain a better and more convincing representations for the same concepts. Moreover, by crossing the sign of legs we can arrive at simple signs for NO ENTRANCE and NO EXIT, as well as a sign for CLOSED and OPEN as shown below:



The above discussion only announces what is to come on the remaining pages of the book. The essence of the message is: Be patient, we have only started to expose sign “operations” that arise in Nobel, which will allow better constructions for numerous signs.

Let end this outline of challenges and temptations with a brief mentions of design of a sign for CHILD, assuming that we already have a sign for PERSON. Where to start? How can we relate and possibly use or modify the sign for a grown up a person in order to arrive at the sign for a child? My initial attempt was to view “child” as “small person” but there are small persons who are not children. Another thought was to connect (or disconnect) signs of PERSON and sign for SEX, associating a mature person with sex and a child, as immature, as being “without sex.” However, there are grown up people who are “devoid” of sex (such as eunuch who is a castrated person). Finally, a good ten years later I came upon the simple solution: child is a person that grows! Thus combining signs for person and growth pone immediately obtains as a combination the sign for child. Moreover, as a bonus, the same recipe when applied to the sign for child leads to a sign for baby, as a “child that grows.

Combinations using doubling of signs



ADORE – *enthusiastically admire*



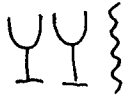
AMBITION – *too many goals (targets)*



BATHE – *body in sea*



BLEEDING – lot of *blood*



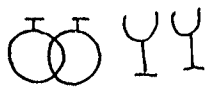
BREWERY – lot of *beer*



FERVENT – *enthusiastically* inflamed



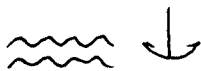
FESTIVITY – lot of *party*



FIESTA – *day of celebration* (celebration = lot of wine)



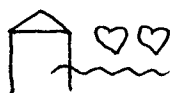
FLAMINGO – *bird* having a color of *flame*



HARBOR – *security* at *sea*



HEART INFLAMMATION – *inflammation* of *heart*



HIVE – *house* for *honey*



HONEY – very sweet (hence *love*) liquid (*water* sign)



INFLAMMATION – *flame inside body*



JIGSAW PUZZLE – *cut cut picture*



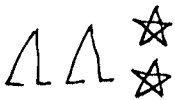
JUICE – *fruit liquid* (*water*)



MARDI GRAS – lot of *marching* and *celebration*



MUTILATE – *cut cut body*



PARADE – lot of *marching* and *decoration*



PEARL – “*diamond*” of the *sea*



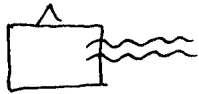
POULTRY – *domestic birds*



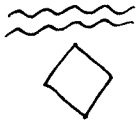
PROSPER – have many *successes* behinds



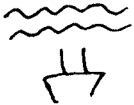
SEAGULL – most common *sea bird*



SEASCAPE – *picture of sea*



SEASHELL – *hard under sea*



SUNK – *ship under sea*



WEEP – *eye and lot of water*



WINE – drink (wineglass) of *flame*. Wine does warm a person somewhat



WINERY – lot of *wine*

Triple of signs

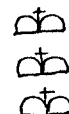
In Nobel at most sign can be repeated three times or at most three different signs are combined into a single word unit. We have collected combinations of three signs, which we show in combinations with the sign itself and its doubling form. At the end we will make brief comments for some of the new signs shown here.



AUTHORITY



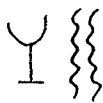
GOVERNMENT



DICTATORSHIP



BEER



WINE



BRANDY



BLOOD



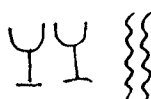
BLEEDING



HEMOPHILIA



BREWERY



WINERY



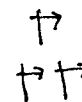
DISTILLERY



DIRECTION



ORDER



PATTERN



DRINK



CELEBRATE



BOOZE



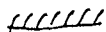
FICTION



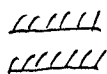
IMAGINATION



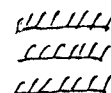
PHANTASM



GRASS



PASTURE



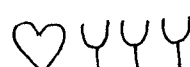
PRAIRIE



HAPPY HOUR



FIESTA



CARNIVAL



HOOK



CONNECTION



NETWORK



LIKE



LOVE



PARADISE



MONEY



RICH



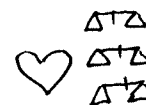
MILLIONAIRE



SENSITIVE



HYPERSENSITIVE



ALLERGY



SMOKE



FLAME




FIRE



SNOWFLAKE



SNOW



SNOWDRIFT



STAR



CONSTELLATION



GALAXY



STAR



DECORATION



NOBEL PRIZE



TREE




WOOD



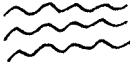
FOREST



WATER



SEA

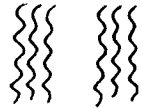


OCEAN

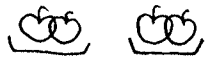
Most of the sign combinations are self-evident. As one can see we differentiate among alcoholic drinks using smoke, flame and fire signs that correspond to increased alcoholic content of the corresponding drinks, beer, wine and brandy or whiskey, respectively. At one time Tennessee had age restrictions of 16, 18 and 21 years for drinking beer, wine and hard-drinks, which parallels our approach to alcoholic drinks to a degree. One can interpret the “triple” sign as “lot of” whatever stands for the double sign. So lot of *sea* symbolizes *ocean*, which is in the terminology of science, an order of magnitude larger than sea. Similarly *avalanche* is lot of *snow*, *dictatorship* is too much

of *government*, *prairie* is too much *meadow*, and too many *trains* make a *railroad* and too much *fruit* points to *abundance*. Along such line of thought one can view a *pattern* to reflect lot of *order*, *allergy* to be result of too much of *hypersensitivity* and finally *paradise* to be a place of too much of *love*.

Doubling of Combinations



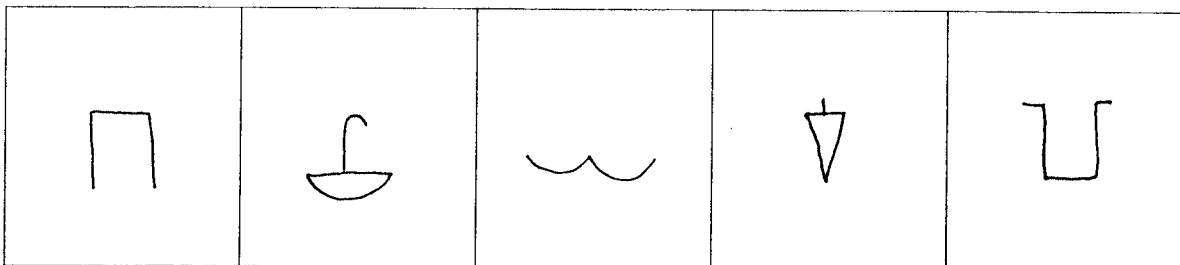
WILDFIRE – *fire fire*, lot of fire



MELLOW – *ripe ripe*, lot of ripeness













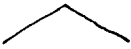







Inversion of signs

By inverting a sign, that is writing it “upside down,” we can convey an opposite meaning to the sign. So the sign of heart that symbolizes to like, to love, became when inverted the sign for dislike, hate. Those who have been sailing know that along coast there may come across an “upside-down” sign of an anchor, which tells “do not drop anchor here,” as the site has undersea cable or other installations that can be damaged. Thus inverting the sign to get an opposite meaning is not an invention of Nobel, but it will be used in Nobel when possible. We have to emphasize “when possible” to draw attention of readers to the fact that by inverting a sign many signs the inverted signs need not be immediately recognized or apparent, particularly when one does not know if such a sign is inverted sign or perhaps a new sign. This is the case with signs shown below:



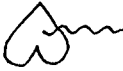
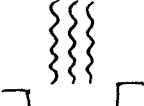

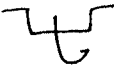

The signs that represent inverted basket, umbrella, bird, tree, and door, may be recognized once we describe them, but unsuspected reader not told of their inversion may be somewhat confused. For example, the inverted door looks just as another basket, inverted tree looks like a carrot. There is no simple interpretation for such inverted signs, except perhaps for an inverted umbrella, which does happen sometimes on a windy rainy days. If we are to accept such signs we would betray our basic requests on signs that they are easy to be recognized – and we certainly do not wish to betray the basic principles of Nobel. Hence the above and many other similar constructions of inverted signs have not been adopted and are viewed as unacceptable.

We will list below ten inverted signs that we consider acceptable, which can be readily recognized as being inverted pictures of already known signs:

				
MONEY	LIKE	AUTHORITY	PODIUM	CONTROL
				
FAKE	HATE	IMPOSTER	PIT	UNCONTROLLED
				
SAFETY	MOUNTAIN	DOMESTIC	SNAKE	BODY
				
UNSAFE	VALEY	WILD	VIPER	MIND




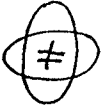
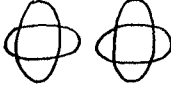
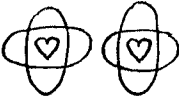
We have included here also the signs for snake-viper and body-mind, which strictly speaking are not complete inversion, but are constructed in the same spirit. Later we will

meet few additional inversions for signs: above-below, male-female, electricity-transmission. It is tempting to use inverted signs more often but more important is to maintain clarity and avoid ambiguities that inversion of signs may introduce. Thus in Nobel we use inversion rather rarely. Below we show few signs that are obtained using inverted signs in combination with other signs:

				
BILE	FIREPLACE	RAPE	TRAP	COMPLETE

The sign for COMPLETE may appear unusual but there is a brief story behind it. The vertical oval, half of the sign, can be recognized as representing BODY, while the other half, the horizontal oval, stand for MIND. Thus COMPLETE in Nobel is overlapping of BODY and MIND. When I was in the elementary school in a small village of 400 people at northern Adriatic coast the school has but a single room and single teacher for four classes of elementary education. Each two rows represented another class and it was not easy for teacher to keep all us busy all the time. So while the teacher was more occupied with the senior classes we in junior classes would occasionally watch through windows birds flying. The teacher would scold us saying that we are present in the class only with our bodies but not with our minds. Thus we were not complete persons by her account!

Before continuing with the additional operation for construction of opposite signs let us illustrate few signs that use the sign of COMPLETE:

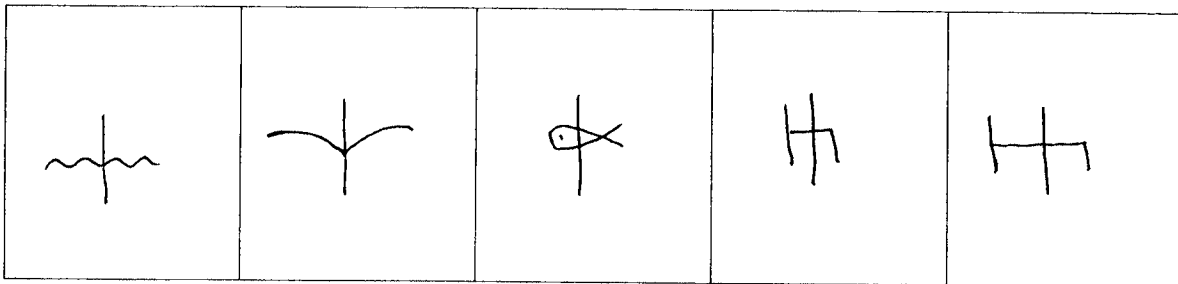
				
SATISFACTION	GRATIFICATION	IDENTICAL	UNIQUE	ENTIRE
				
INDULGE				

One may argue that satisfaction is a peace or happiness of body and mind, which may explain the sign. GRATIFICATION is just up-scale satisfaction, hence doubling of heart. Similarly if something is completely equal to something else, the two are then IDENTICAL, or as ordinary folk would say, they are eggs, even though many if not most eggs can be differentiate, except for identical eggs, which give rise to identical twins! Similarly if something is completely different from everything else, being the only one, it is UNIQUE.






Let us now continue with construction of antonyms.

Crossing of signs


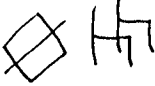


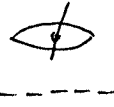




Another natural way to indicate opposite meaning of a sign is to simply cross it. For example, by crossing *eye* we immediately suggest BLIND person, and by crossing *diamond* or *hard* we obtain a sing for SOFT, as indicated below. However, there are two problems with wide use of crossing of signs: (1) Many signs are not of a suitable form to allow crossing; and (2) Some signs when crossed may suggest an interpretation, which is not opposite to the initial meaning of the sign. To illustrate the first point let us consider crossing the signs of water, bird, fish, chair or bed, to mention few, illustrated bellow:



They simply do not look “right,” they do not carry a clear visual message, and therefore will not be used in Nobel. Among the initial 60 basic signs we selected only three: EYE, HARD (diamond) and LEGS (walk), which after crossing still represent simple and clear sign. Later we will see few additional signs obtained by crossing. For example, one obtained the sign for “gradual” by crossing the sign for “sudden,” the sign for “not have” by crossing the sign for “have,” the sign for “health” by crossing the sign for “ill,” and the sign for “abortion” by crossing the sign for “birth.” In the case of the sign for legs, as illustrated below, one can use multiple crossing without reducing clarity of the sign. In this way we have constructed signs for *stand*, *sit* and *lie* down:






				
BLIND	SOFT	STAND	SIT	LIE DOWN

LEGS suggest *walk* so by crossing legs we obtain the sign for STAND. It was Sir Winston Churchill who said: “*Don’t stand if you can sit, don’t sit if you can lie down.*” We took advantage of this well spoken advice of Churchill and thus by additional crossing from the sign for STAND we obtain the sign for SIT, and by crossing the sign for SIT we obtain the sign for LIE DOWN. Below we show several combinations involving crossed signs:

				
SOFTBALL <i>soft ball</i>	SOFA <i>soft bench</i>	CARTILAGE <i>soft bone</i>	SOFT DRINK <i>soft drink</i>	BLIND ALLEY <i>blind road</i>
				
BACK <i>body no seen</i>	NIGHT <i>not day</i>	INEDIBLE <i>not food</i>		RICKETS

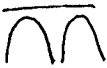

Most of the above constructions are self-evident, sofa being soft bench, back being part of body we can’t see, easy is shown as crossed difficult or heavy, night is crossed day, and inedible is crossed food. The sign for cartilage perhaps need comment, because cartilage is not a bone, though in some fishes, e. g., sharks and rays, including stingrays, it forms skeleton. Literally “soft bone” would stand for rickets (rachitis), a disease caused by deficiency of vitamin D, which was once not uncommon, but is today practically non-existent. It would be therefore a “waste” of a kind to use a simple combination of signs for something that is so rare. So we will use simpler combination “soft bone” for *cartilage* and combination “soft” and “bone” for *rickets*.

As illustration of signs that after being crossed change their apparent interpretation we will mention MOUNTAIN and VALEY:



				
MOUNTAIN	TUNNEL	VALEY	“BRIDGE” (not adopted)	BRIDGE (new sign)

By inverting the “mountain” we obtain “valley” but by inverting the sign for “tunnel” we obtain a sign for “bridge” as an opposite concept. However, most bridges are over rivers and at best gorges, but not valleys. So the *inverted tunnel* as a sign in Nobel for *bridge* is abandoned and instead a simple *basic* sign for bridge introduced, which bears more similarity with bridges that one is likely to cross. The sign depict a bridge with two arches and may be viewed as a fraction of Roman aqueducts and other bridges having many arches. It was Romans who invented and mastered building bridges with arches, in the center of which is keystone –that keeps bridge from collapsing. In contrast Inca and Maya, who also left rich architectural heritage did not discover arch and used instead stone slabs to construct passages, which could span only sort range.

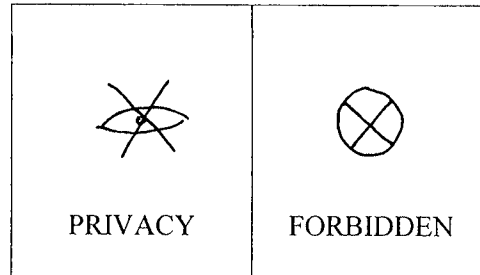
By having a sign for BRIDGE we can *modify* it and obtain sign for ACQEDUCT, as shown below. It is not that this sign will be widely used by most people, but on one side it is in dictionaries and thus we should consider it, and on the other side, it offers us an opportunity to pay respect to ancient Romans and reminds us of their accomplishments. In addition this sign points to a useful technique, on which we will later fully elaborate, in how by minor and often obvious modifications we can arrive at novel signs.

	
BRIDGE	AQEDUCT

Finally by crossing the sign for DOOR we obtain sign that one can interpret as CLOSED (CLOSED DOOR), which strictly speaking is opposite of OPEN DOOR, (not DOOR), the sign for which has yet to be invented.

	
DOOR	CLOSED


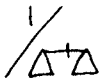


Besides the already shown double and triple crossing of signs where crossing lines are parallel we may have double crossing of signs with two lines that are not parallel as illustrated below for the signs of PRIVACY and FORBIDDEN, the latter of which coincide with the traffic sign for part of roads where is forbidden stopping and parking:




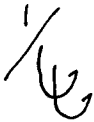
















Later, after we introduce additional basic signs of Nobel, we will meet few additional signs obtained by crossing. As we see *inversion* and *crossing* as methods to derive signs for opposites (antonyms) have rather limited use. We need a more practical and a more general procedure to construct signs representing the opposite of the signs that have been already inducted into Nobel. Bliss in his *Blissymbolic* universal language has solved this “problem” by introducing a separate sign that indicates the “opposite” meaning. As we will see in the next section Nobel also has an alternative approach for constructing opposites that has its roots in mathematics.

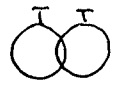
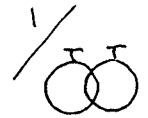












Opposites as Reciprocal











As most readers will know reciprocal in Algebra represents inverse or opposite of a number. Thus “double” and “half,” which represent outcome of opposite mathematical operations, multiplication and division, are shown as 2 and $1/2$, which is reciprocal of 2. We will use the same recipe, reciprocal $1/x$, to construct opposite of x .


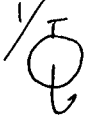

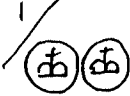






	
BALANCE	IMBALANCE
	
CLOUD	CLEAR

	
CLOSED	AJAR
	
CONNECT	DISCONNECT



	
CUT	PASTE
	
DECORATION	STIGMA
	
DRINK	ABSENTEE
	
FAKE	GENUINE
	
GOVERNMENT	OPPOSITION
	
LIKE	DISLIKE
	
LOYAL	DISLOYAL



	
DAY	NIGHT
	
DELICATE	ROBUST
	
ENTHUSIASM	MELANCHOLY
	
FOOD	FAST
	
KISS	FRIGID
	
LOVE	ENMITY
	
NATURAL	UNNUTARAL

	
ORDER	DISORDER
	
RIPE	RAW
	
SAFE	UNSAFE
	
SENSITIVE	INSENSITIVE
	
SWEET	BITTER

	
PERMANENT	TEMPORARY
	
RICH	POOR
	
SECURE	PRECARIOUS
	
SUCCESS	FAILURE
	
VALUE	TRIFLE

To the above collection of opposites we may add two additional combinations, which also appear as fractions, but which do not correspond to objects of opposite meaning. A sign and its fraction form a pair of words, which we used for construction of antonyms, but we can be more liberal and use the same mode of construction for pair of words that are in close association and need not be opposites, such as:

	
FRUIT	VEGETABLE

	
TIME	FREQUENCY

The first case, the pair: Fruit-vegetable are clearly not pair of words having opposite meanings but a pair of words that one can associate one with another. In fact there are some plant products, tomato being perhaps the best known, which some people (and in some countries) consider as fruit and in other as vegetable. Already in the introduction we have mentioned examples of pairs of words like man-woman, cat-dog, coffee-tea, good-bad, love-hate etc., which tends to have strong association. The list of words that are closely associated is long; fruits-vegetable is just one example:

All – none
 Beautiful – ugly
 Body – mind
 Child – adult
 Coffee – tea
 Day – night
 Emotion – apathy
 Extinct – exist
 God – Satan
 Guilty – innocent
 Infinite – finite
 Medication – poison
 Music – noise
 Poem – prose
 Question – answer
 Remember – forget
 Strong – weak
 True – false
 War – peace
 Work – play
 Yes – no



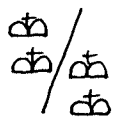


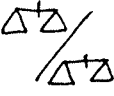
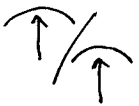
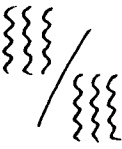
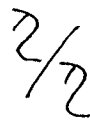




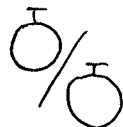

As we will see in continuation all above “duals” are expressed as “reciprocals” of one another, maintaining thus associations of those words, which facilitate understanding of Nobel.



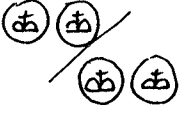






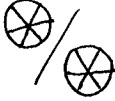
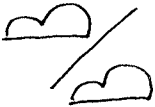
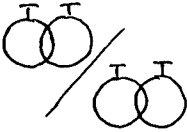
The other pair of signs TIME – FREQUENCY relate to physics, rather than linguistic. The concept of frequency in physics is related to the reciprocal of the time, but one need not be student of physics to understand this relationship. More often (or more frequently) you do something it takes less time in between, so time and frequency are inversely related. For example, if you go once a month to McDonald for French fries that takes 30 days between two such visits, but if you go once a week, so you increased your frequency, it takes seven days in between, and if you go every day, you increased your frequency 30-times and cut the time “distance” of your visits 30 days! While this represents simple mathematical problem, your medical problems may be more serious, unless MacDonalld in your neighborhood is using non-digestive oils. Incidentally French fries have nothing to do with France, but got their name from Mr. French from New York, who was the first to make them and attract business.

By now we have already seen about 365 signs of Nobel, one sign for each day of a year! But you need at most a full day, not a full year, to become familiar with all the 365 signs.

Signs as Fractions

We will take advantage of the mathematical notation of reciprocals to introduce signs in a form of fraction in which we place a sign in the numerator (the upper part) and in the denominator (the lower part) of a fraction. Such signs describe concept that combines the meanings of the sign and it's opposite. For example, SWEET and BITTER, which are opposites with BITTER being shown as *reciprocal* of SWEET, when the two signs are combined the resulting sign represent SWEET – BITTER, which we have interpreted to be the sign that stand for TASTE, which of course, can be sweet or bitter. To this we may add also TOMATO, for which we just mentioned that some view it as a fruit and some consider it as vegetable, so in a way TOMATO is both, fruit and vegetable, of which Nobel took advantage to arrive at simple sign for tomato. As one continues learning Nobel one will find out that signs for plants, and to a lesser degree for animals, are a challenge of a kind – not easy to introduce. Below we show additional combinations of signs in the form of a fraction, which often combines opposite qualities into a single sign:

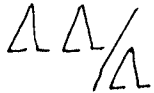
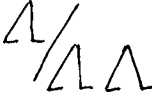
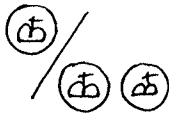
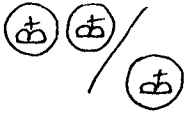
				
BUSH	CLIMATE	COALITION	COUPON	DIET
				
EQUILIBRIUM	ESTIMATE	FALSE ALARM	GLASS SNAKE	GRIN
				
HESITATE	HILL	HOUSE ARREST	INSTANT	INSURANCE

				
LOVE - HATE	MEND	MIDDLE CLASS	MODERATE	MOLLUSK
				
PLANET	STEAM	TASTE	TOMATO	VEHICLE
				
WEATHER				24 HOURS



We have assigned to the combination: cloud-not cloud the meaning WEATHER, while overlapping “weather” became a sing for CLIMATE. The sign for COALITION is obtained by fusing the signs for government and opposition. Similarly the sign for time and no-time stands for IMMEDIATE, something that need be done in no-time! The sign for FALSE ALARM is that of fire-no fire just as HESITATE is shown as going and-not going, leaving thus some ambiguity at the outcome. The sign for DIET is self-evident: diet is a matter of food (eating) and no-food (fasting), because your body weight only depends on how much food (energy) you consume and how much energy you spend (working or in exercise). When one is to ESTIMATE something one is suggesting a *measure* (scale) but one is *not measuring*, while EQUILIBRIUM is shown by combining balance and imbalance (a state is in equilibrium when balance replaces imbalance). The sign for MEND, mending, is shown as cut and paste, which are operations often used in mending, whether one is mending some cloths or revising manuscripts. MIDDLE CLASS is shown as people who are rich and are not rich. They have money (hence they are rich) but not enough to put aside (so they are also poor). MODERATE is shown as drink (dinking is implied by wineglass) and not drinking (abstain). COUPON is shown as money and not money, because coupons if used for the occasions offered are equivalent money, that is, they save you money, even if they are not money. The combination SNAKE / NO SNAKE stands for GLASS SNAKE, which appears as snake, but is in fact are lizards, their legs have so deteriorated that in most cases they are not visible outside their body. Later we will come across combination VIPER / NO VIPER to stand for common water snake, the bite of which is not venomous but the bite of the snake will

putrefaction (decay of tissue). In contrast to the sign snake/no snake and viper/no viper, which are correct characterization of glass snake and common water snake, the sign FISH / NO FISH for WHALE, if taken in Nobel would perpetuate incorrect perception, because whale is not a fish, although some 300 years ago people have believed that it is a fish. Thus in the 17-th century whales were incorrectly classified and record on this comes also from early attempts to construct artificial universal languages by using tables of numbers to represent different words. Such tables have been classified all objects and concepts in various groups, like plants, fruits, vegetables, animals, mammals, lizards, snakes, birds, fish, minerals, precious stones, etc. Because common people know better today than experts knew 300 years ago the signs FISH NO FISH, which is good as a sign, needs in Nobel novel interpretation and we took that it stand for MOLUSKS, animals like snails, slugs, cuttlefish, squid and octopus, most of which are aquatic invertebrates living in sea. A similar is the interpretation of STAR / NO STAR as PLANET. There are number of celestial objects that are not stars (including meteorites, asteroids, comets and nebulas (the one in the constellation Orion being the only one visible to the naked eye) that could be candidates for the sign STAR / NO STAR and we selected PLANET, in view that they are stationary on a sky for longer period of time, which is a characteristic of planets, and do look like a star. The sign: SMOKE / NO SMOKE stands for STEAM, which appears as smoke (very visible as such in cold winter days) but is not smoke – and does not contributes to air pollution. This fact anyone can observe by watching steam leaving chimneys and disappearing after short distance – while smoke stays on. Let us also comment on SMILE / NO SMILE. Technically GRIN is a smile, but there is something artificial about it, it is not as normal smile, which justifies our composition. One can smile by showing teeth, but one can also smile but not showing teeth, as is the case with the mysterious smile of Mona Lisa, of Leonardo da Vinci. Actually, today the smile of Mona Lisa is less mysterious than it used to be only dozen years ago, because study of the remains of Gioconda (what was the real name of Mona Lisa) were excavated and tested for not uncommon gum illness, when gum is shrinking showing teeth (the so called “horse teeth” illness). So here are good reasons why Mona Lisa was not opening her mouth. The last sign: 24 HOURS is shown as day and night, which comprise 24 hours; just as frequently used abbreviation 7/24 stands for seven days of a week.

By minor modifications of few signs involving fraction we can further increase the vocabulary of Nobel. Thus the sign for HESITATE can be generalized to signs for SURPRISE and DISAPPOINTMENT by doubling the signs for legs in the “numerator” (the upper part of the fraction) and “denominator” (the lower part of the fraction), respectively. The interpretation of such modifications is as follows: Hesitate is shown as indecision between going and not going but can also be interpreted as something is coming and may not be coming. The doubling the sign of legs in the upper part of the fraction we are indicating that what was coming and perhaps not coming and was thus unexpected, is coming, thus it represents a surprise. Similarly, the opposite is a DISAPPOINTMENT: something that was not expected but could have happen is definitely not to happen. Interpretation of the signs for the UPPER MIDDLE CLASS and the LOWER MIDDLE CLASS is perhaps more obvious: the upper middle class is LESS POOR than middle class and lower middle class is LESS RICH then middle class.

				
SURPRISE	DISAPPOINT		LOWER MIDDLE CLASS	UPPER MIDDLE CLASS

Finally we have few signs that look as fraction but the slash sign is to be interpreted as “by.” One such sign is for word PROOF, which is shown as STEP by STEP, because the task of proving something requires attention at each step of the process. The sign for STEP, which we have not used much, is shown as simple single step:

				
STEP <i>basic sign</i>	PROOF <i>step by step</i>			

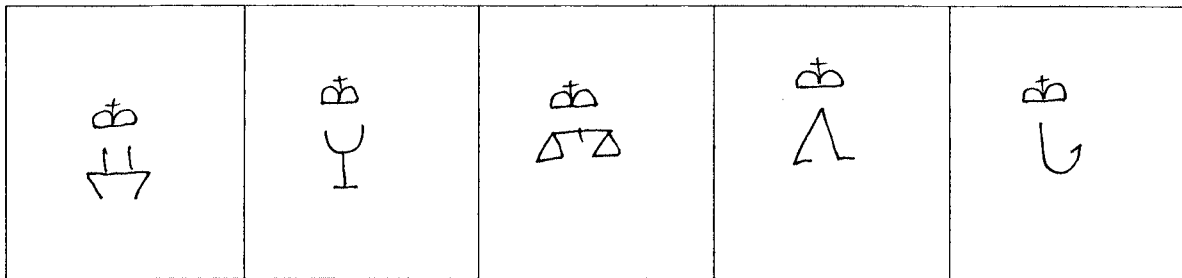
Summary of Basic Operations of Nobel

We introduced 60 basic signs of Nobel, which is about half of the basic signs, and by combining these signs using operations such as overlap, doubling, tripling, and touching, then inversion, crossing, reciprocal and fractions we arrived at about five times more signs than we started with. It is true that some of the words that we presented are rather uncommon, while at the same time many common and daily used words are missing. Our effort here was not to introduce the most important words, which we will do later, but to introduce the basic operations of Nobel that allow considerable enrichment of the vocabulary at minimal “cost,” that is requiring some learning efforts but relatively small, thus not placing great burden on the memory of readers.

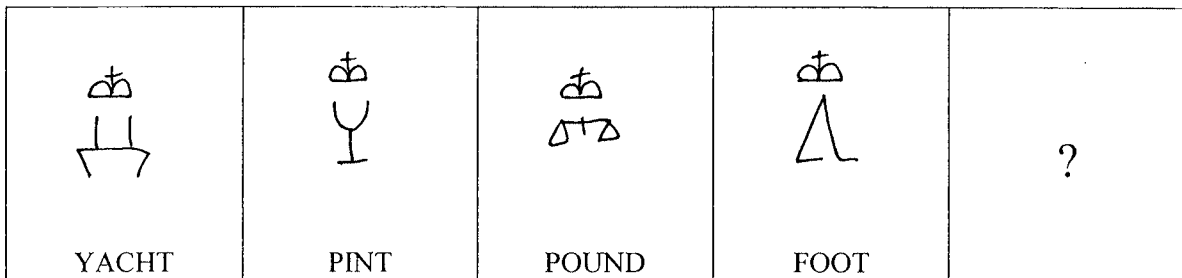
We have not constructed all conceivable combinations of the 60 signs that can have suitable interpretation and readers may come with few suggestions. Apparently there are two ways to arrive at new signs: (1) Browse through dictionaries and hit upon a word that can be expressed with the available signs, or (2) Construct combinations of signs and then consider what such combination can represent. Both of these approaches have been used to arrive at some 400 words. An alternative and possibly more efficient way of constructing novel sign combinations is to screen dictionaries. Reading dictionaries is quite an entertainment that many may have not suspected. Abraham

Lincoln was known to enjoy reading dictionaries. However, reading dictionaries and having Nobel graphical language in mind may not only be entertaining but also creative!

To illustrate the challenges associated with the approach in which one first constructs various combinations of signs and then “worries” what they represent, we show below five signs not hitherto considered using CROWN (authority, or related to crown, that is king):



Can we arrive at plausible interpretation of these signs? Well, one may look here at the CROWN as the sign signifying *royalty*, in which case the combinations represent we have royal ship, royal cup, royal balance, royal legs, and royal hook. *Royal ship* can stand for YACHT, which is very acceptable, because yacht are on “top of the line” when it comes to luxury. We can view royal cup, royal balance and royal legs as signs for royal measures for liquids, weight, and length, which are PINT, POUND and FOOT. In fact it was the foot of King Henry VIII that was taken as the standard for length in England. But what about the last sign, what it can possibly represent? We leave this as a challenge to readers. We can add to our vocabulary four signs



W = 420

Having a vocabulary of over 400 words (in fact about 420) is a good start in learning a new language even if a number of words may not be words of daily use. By adding additional 60 basic signs we may more than double our vocabulary and may reach not 800 but perhaps 1600 or even 2000 words – but we will not reach 20,000. It is not so vital for most of us to have at disposal 20,000 words, but what is important and what will become clear as we continue to explore Nobel, among those 1600 - 2000, which could appear as a sufficient number of words, there will be many “ordinary” words missing. Consider words like:

Active – Inactive
 Arrival – Departure
 Before – After
 Big - Small
 Come – Go
 Dry - Wet
 Early – Late
 Easy - Difficult
 Extinct – Exist
 Fine – Crude
 Fresh – Stale
 Good – Bad
 Hit – Miss
 Income – Spending
 Indoors – Outdoors
 Illness – Health
 Inside – Outside
 Lead – Follow
 Left - Right
 Look – See
 Make - brake
 New – Old
 Please – Thanks
 Sin – Virtue

Most of these words are associated with some action or require some action and may be characterized as implying some dynamics, in contrast with most of the words that we have hitherto seen which represented a situation, a stat, a static moment. As we will see on coming pages Nobel includes a sizable number of arrows of various kinds that suggest often an activity. The inclusion of arrows combined with signs leads to an “explosion” of possibilities for construction of novel words, a fraction of which we will consider in this book. Before introducing arrows we will introduce 30 additional basic signs of Nobel and will also present 25 conventional signs that have been adopted in Nobel.

Conventional Signs used in Nobel

There are many signs widely known and frequently used by many people and therefore one may be tempted to adopt many of such signs in Nobel. However, we should resist such attempts in order to maintain pictographic and ideographic character of Nobel as much as possible. Besides symbols from mathematics almost any branch of science and technology have developed numerous graphical symbols of their own. Some of these symbols may have pictographic elements but nevertheless we will try to avoid them in order to discourage attempts of other users to “contaminate” Nobel. When one

examines a catalogue of the existing symbols from various disciplines of science, technology and also pseudoscience, such as alchemy and astrology, one can find almost a sign for anything! We decided therefore to put aside physics, chemistry, biology, etc and keep only a small selection of mathematical symbols, starting with sign of plus (+), which has been in used over 500 years and the sign equal (=), which is also of long duration. Even if a person is not necessarily mathematically informed one has probably seen above two elementary mathematical symbols, which one can find even on key boards of typing machines and computers! If one crosses the sign for “equal” one obtains the mathematical sign for “different” (\neq). The last of elementary mathematical signs that we have adopted is the sign for multiplication (\times). Two geometrical symbols that may be widely known are \parallel and \perp that stand for “parallel” and “perpendicular.” We use these signs to indicate “agree” (that is, being parallel with) and disagree or be “against.” The following two signs (∞) and (\emptyset), which represent the concepts of “infinite” and the concept of “empty,” the first looking like a “horizontal” number eight and the second is zero that is crossed, may be lesser known to a general public but we find them useful as signs to measure vastness and emptiness. The last two mathematical signs that we will use are the Greek capital letter “sigma” (Σ), which we use, just as is used in mathematics, for summation, and the sign ($>$), which indicates “greater” and which we use to represent “big.”

The non-mathematical conventional signs used in Nobel include the question sign (?), the musical note sign to represent “tone” (♩), the crossed letter R as the sign that doctors and pharmacist use for prescribing medication, the crossed swards as the sign the indicates “battle,” the zigzag arrow sign for the electricity, the Greek letter “theta,” used in printing to indicate “delete” or “eliminate” when correcting printed matter In Nobel Greek letter theta is used for “without,” because parts of a text so indicated should be deleted, that is the resulting text should be *without* parts so indicated. For the “ground” and the “basis,” “basic”, or “base” we use the sign which is familiar to radio amateurs and can be seen on electrical networks plans. Two additional signs that many know and for sure those using “plastic money” (that is credit cards) and loan money from banks is the sign for the percentage (%) and the sign for an “item” or “number” (#), both of which can be found on most typing key boards. Finally we use for God (or gods) the traditional sign “eye in a triangle,” that can be seen in many churches and on every one dollar bill. Below we summarize all mentioned signs with their interpretation in Nobel.

MATHEMATICAL SIGNS

$=$	$+$	\neq	\times	\parallel
EQUAL	PLUS	DIFFERENT	MULTIPLY	PARALLEL


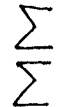












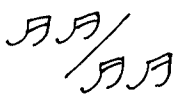



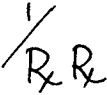
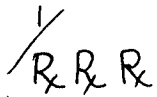



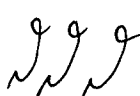
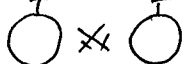




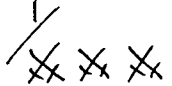
PERPEN- DICULAR	INFINITE	EMPTY	SUM	BIG


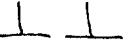
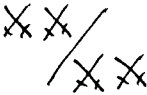

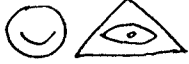




TRADITIONAL SIGNS

QUESTION	TONE	MEDICATION	BATTLE	ELECTRICITY
WITHOUT	GROUND	PERCENT	NUMBER	GOD

By using the sign operations (overlap, doubling, tripling, reciprocal and fractions) we can immediately generated well over sixty additional signs:

ERROR	MISTAKE	ROUGHLY	APPROXIMATE	PRECISE
ADD	INFINITESIMAL	CALCULUS	VACUUM	DIVERSE

				
TOTAL	COLLECTION	VERY BIG	HUGE	VAST
				
SMALL	TINY	MINIATURE	QUESTION	ANSWER
				
NOISE	SOUND	CONCERT	SYMPHONY	JAZZ
				
ANTIBIOTIC	PANACEA	POISON	DRUGS	HEROIN
				
ANTIDOTE	LIGHTNING	ELIMINATE	DESTROY	TIME CONFLICT
				
WAR	ARMISTICE TRUCE	PEACE	WORLD WAR	WORLD PEACE

				
SATAN	REGARDLESS	CEASE-FIRE	ALLAH	BUDDHA
				
BACCHUS	VULCAN	BUZZ	TOLERATE	

Before we consider combinations of mathematical and traditional signs with basic signs of Nobel we have to comment of several of the signs shown above that may be less transparent. The sign for INFINITESIMAL as opposite of INFINITE is clear, particularly to those with firm mathematical knowledge. When the two are combined we obtain part of mathematical known as CALCULUS, which deals with such processes and quantities. The sign for FOR is obtained as “against against” in analogy with “enemy of enemy is a friend,” thus being against of what we are against count as to be “for.” In reality such simplistic premise is questionable but it serves the purpose of introducing novel signs without taxing our memory excessively. Similarly we interpret the operation of “doubling” of a sign as a device to add novel *quality* to the sign. This would be in agreement with Friedrich Engel’s maxim “accumulation of quantity brings novel quality,” (which was subsequently exploited by Karl Marx for promoting his political dogmatism). Thus medications are useful for ill, but antibiotics are more useful (when applicable) than traditional drugs, thus doubling crossed R signifies ANTIBIOTICS. Musical note stands for TONE (MUSIC) and its opposite is NOISE, while tone and noise are forms of SOUND. Lot of music we hear at CONCERT but also at SYMPHONY performance, which we distinguish by placing sign next to each other or one above the other.

Additional signs that may need comment include:

TOLERATE – being *parallel* (i.e., accepting) those who are *against* (perpendicular)

DRUGS – we view street drugs more than poison, hence *poison poison*.

PANACEA – cure for all deceases in reality does not exist but the word exist, so it is shown as more potent medication than antibiotics, which are more potent than ordinary drugs
















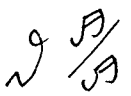
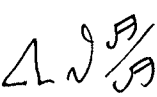



HEROIN – among drugs heroin is among the worst poisons, hence *poison poison poison*


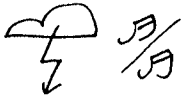
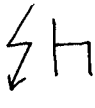



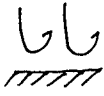

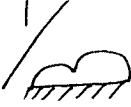
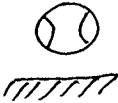
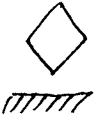


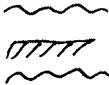

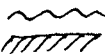
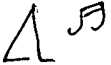


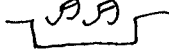


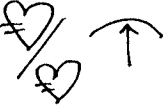




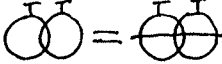
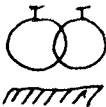

WORLD WAR – lot of *battles*, lot of *wars*



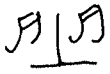


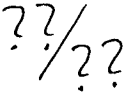



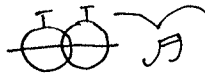
WORLD PEACE – *opposite* (reciprocal) of *World War*. This may well be the new world not to be found in any dictionary yet! It is not among some 150,000 words of “Webster’s New Twentieth Century Dictionary Unabridged” (2nd Edition), but hopefully it may emerge in “New Twenty-first Century Dictionary” unless the words was considered unrealistic.

TIME CONFLICT – *battle between times*

With these introductory comments we present now combinations of novel signs with those already considered. There is no significance in the order in which signs are listed although we tried to group signs having common elements together.

				
TRUE	FALSE	PARADOX	AXIOM	HONEST
				
OATH	SWEAR	HUNGRY	STARVE	BALD
				
WORTHLESS	BROKE	CRUEL	GHOUST	HAUNTED
				
SILENCE	SLIP	BUSY	DESERT	DRY

				
THUNDER-STORM	THUNDER	ELECTRIC CHAIR	EEL	BATTERY
				
FACT	DATA	FOG	CLEAR	BASEBALL
				
STONE	ROCK	JEWEL	ISLAND	LAKE
				
MUD	DANCE	BALLET	DISCO	ORCHESTRA
				
OPERA	MUSICAL	POLYGRAPH	SCREEN	INDEED
				
WHEN	WHERE	EQUINOX	DATE	MIST

				
PIE	HARMONY	DISHARMONY	HARMONY	DISHARMONY
				
QUIZ	DEHYDRATED	VANISH	SONGBIRD	NIGHTINGALE

The meaning of about half of the sign shown is rather apparent but about half of the signs need a comment to explain how they should be interpreted. Let start with signs the meaning of which is not difficult to understand:

BALD – *without hair*

BALLET – dance over podium, hence *legs with music over podium*

BROKE – *without money*

CLEAR – opposite of *fog*, hence *reciprocal fog*

CRUEL – *without heart*, indeed person without heart tends to be cruel

DANCE – *legs with music*

DEHYDRATED – *without without water*

DESERT – is shown as *land without*, implying without use, without life, without water even though even desert has some life and some water and some use (or misuse like exploding bombs)

DRY – *without water*

EEL – *electric fish*

ELECTRIC CHAIR – *electric chair*

EQUINOX – *day equal night*

FOG – *ground cloud*

GHOST – *without body* as ghost are generally perceived

HAUNTED – is shown as a *house with a ghost* inside

HUNGRY – *empty body*, that is, empty stomach

MUD – *water above ground*

PIE – *basic cake* (at least in USA)

SILENCE – *without sound*

SLIP – *legs without sound*, which is walking without making noise

STARVE – is shown as *hungry hungry*, thus we have *empty empty body*

THUNDER – *sound of thunderstorm*

THUNDERSTORM – *cloud with lightning*, i.e., cloud with *lot of electricity*

WORTHLESS – *without value* (value is shown as “*time & money*”)

Many of the remaining signs can also be easily understood once few key signs have been explained. Consider the first sign, *equal* sign overlapping *heart*. What could this represent? We assign to this combination as the meaning: TRUE, TRUTH. This is based on analogy with people putting their hand over heart when making allegiance and when wishing to emphasize that they speak truth. We use for that purpose the sign of equal, hence *equal heart* means *true*, or equal truth.

By knowing now the sign for TRUE we can immediately interpret several other signs that involve heart with equal sign.

AXIOM – *basic truth*

FALSE – *not true*, hence *reciprocal to true*

HONEST – *path of truth*, honest person leaves only truth behind

INDEED – *true true*

OATH – *official truth*, that is truth stated at an official occasion

PARADOX – *true and not true*, that is a statement that appears untrue but is true

POLYGRAPH – measuring true and false statements, hence *true/false* and *scale*

SWEAR – judicial truth, that is truth stated at in court or similar occasions, hence *balance and truth*

TRUE – *equal heart* (ideograph)

TRUELOVE – *true love* (sign are combined)

There are few signs that involve the GROUND sign, besides the obvious, above already mentioned, sign for FOG as ground cloud:

BASEBALL – *base* (ground) and *ball*. Pretty obvious, except for those who do not know what is baseball (like recent European immigrants and some not so recent). So this is the only reason for not placing baseball in the class of obvious signs

DATA – *lot of facts*

DATE – *basic day*

FACT – something that has firm basis, hence *hook in ground*

ISLAND – land above water

JEWEL – valuable stone, hence *crown* inserted inside the *diamond*

LAKE – water above land

ROCK – big stone, hence *stone stone*

STONE – *hard on the ground*

We are left with few not yet explained signs, which we list below:

DISCO – *lot of dancing*

DISHARMONY – *musical notes against (perpendicular to) each other*

DISHARMONY – *hearts against each other*

HARMONY – *musical notes agree (parallel) with each other*

HARMONY – *hearts agree (parallel) with each other*

JAZZ – is shown as lot of *sound*

MUSICAL – *lot of music on podium*

Both signs have the same description, as was the case with concert and symphony. The signs are differentiated by placing musical notes above one another for opera and symphony and side by side for concert and musical. The vertical and horizontal placements suggest *quality* and *quantity* respectively in a broad sense of interpretation. As we know some popular concerts lasted days, while the longest operas last at most few hours.

ORCHESTRA – is show as *music in a pit*, where orchestra is during musicals and operas

OPERA – *lot of music on podium*

QUIZ – *questions / answers*

NIGHTINGALE – *night songbird*

MIST – is shown as *thin fog*

SONGBIRD – *musical bird*

VANSIH – disappear without trace, therefore we have disappear *without path*

WHEN – *time to be answered*

WHERE – *question to the path with direction*













Observe that we have two variants for the same pair of words, the signs for HARMONY and DISHARMONY. We offer these variations occasionally in Nobel, when words are general enough to apply to different situations. Clearly if we speak of music, then we will use the signs with musical notes. However, if we speak about harmony (or lack of it) among people, appropriately we will use the signs involving hearts.

We will end with gathering together signs combining the signs for HOOK, GROUND and CLOUD. In Table 1 we have collected such signs, which illustrate the relationship between the corresponding signs, and related parallelism of their interpretation. If we are comparing the words in the first two columns we see that just as *overlap of hooks* suggests *connection* so does *overlap of fact* represent *information*, *overlap of fiction* *imagination*, and *overlap of speculation* leads to *hypothesis*. SPECULATION itself is shown as something *hooked into fog*, which may turn out to be a fact but it may also turn out to be a fiction, hence speculation. Now if we compare words in the second and third column we see again similar relationship. Thus just as *overlap of connections* represents *network* so *overlap of information* leads to *knowledge*, *overlap of imagination* represents *phantasm* and *overlap of hypothesis* builds a *theory*.

Most likely we have not exhausted all possible combinations of signs hitherto considered and it is not to be surprise if a reader comes with one or two novel combinations that have simple interpretation. It may also be true that we have here and there overextended our imagination and that some of the signs shown may not be so straightforward representation of the pictographic or ideographic content of the sign. It is possible that an alternative sign better depict the content than already selected sign. If that happens we should discard less “friendly” sign and adopt new sign. In this respect we will follow the advice of Abraham Lincoln (1809-1865): “*I shell try to correct errors where shown to be errors, and shall adopt new views as fast as they appear to be true views.*”

Languages live and are not frozen entities, so the same will be true of Nobel. We may mention here in passing that the fate of Esperanto, one of the most widely successful and known artificial language, composed by Polish doctor Zamenhoff, was at one time very critical, loosing the ground, because Zamenhoff was so inflexible in adopting suggestions from others that it was only after his death that it begins to revive. There are no reasons to be inflexible with Nobel providing the novelties follow the general spirit of Nobel, the signs to be easy to reproduce, easy to recognize and easy to interpret.

Table 1




















		
HOOK	CONNECTION	NETWORK
		
FACT	INFORMATION	KNOWLEDGE
		
FICTION	IMAGINATION	PHANTASM
		
SPECULATION	HYPOTHESIS	THEORY





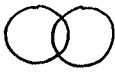
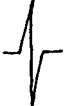




With the set of 60 basic signs and 20 conventional signs we constructed so far about 550 words of Nobel (in fact 555)

$$W = 550$$

Additional Basic Signs

We follow with additional 30 basic signs, which include some very important words, words of high frequency of usage like ANIMAL, BOOK, BRAIN, FACE, KNIFE, words, with exception of BOOK, which may have been frequently used by cavemen in the Stone Age. In addition we included here more sophisticated words, words of modern time, like: ATOM, CELL, COMPASS, MAGNIFYING GLASS, and SIGNAL. Finally, here appears the sign for SMILE, which we do not know how much was used in Stone Age, are our times are for most part not the times of smile, when you think of all the problems that are threatening our Planet, the humanity and the future generations: Global Warming, Widespread Starvations, Warring, Aids, Malaria, Global Pollution, Shrinking of Wildlife, Increasing Illiteracy, Child Abuse, Women Abuse, Animal Abuse, Limited Recycling, Shrinking Rain Forests, Over-fishing, Whale Protection, Over-exploitation of Natural Resources, Corporate Greed, to mention few.

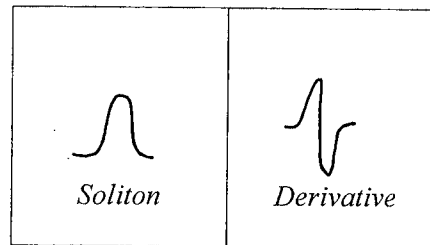
	AZ			
ABOVE	ALPHABET	ANIMAL	ATOM	AWAKE
				
BELLY	BELOW	BETWEEN	BOOK	BRAIN
				
CELL	CHEST	COMPASS	COUNTRY	ENVELOPE
				
FACE	FIELD	GLOBE	HEAVY	KNIFE

				
MAGNIFYING GLASS	MOUTH	NECK NARROW	PART	RINGS
				
SIGNAL	SLEEP	SMILE	TEETH	TEXT

Some of the listed signs can be easily recognized. Such is the sign for SMILE, which is so common and so widespread and almost impossible to trace its origin. Often the sign is depicted with two dots for the eyes, but we do not need such perfection: In Nobel simplicity overrules perfection! Other signs that can be easily recognized include the sign for magnifying glass, the sign for compass (at least to those who have used it to draw circles), perhaps the sign for teeth and mouth (the latter resembling Pat-Man of an earlier computer game, though his mouth has been somewhat exaggerated), and possibly the sign for text shown as many lines. Even though all the signs have strong connections to concepts they represent and there will be no difficulty to remember them, they need the first time when shown to be introduced.






The signs for ABOVE and BELOW, shown as semicircles open up and down, respectively, are also rather obvious. Such signs have been used in corrections of typed manuscript to indicate for superscripts and subscripts. When the two signs are combined with a circle the resulting signs signify BRAIN and FACE, the former being in the upper part of head and the latter indicating lower part of a head. The same two signs when combined with the sign for body lead to the signs for CHEST and BELLY respectively. The sign for SHIELD, besides its literal interpretation (which is not a word of a high frequency of occurrence), in Nobel also represents the sign for COUNTRY. The reason that we turned the sign horizontally is that in that orientation we can more readily combine this sign with other signs, as will be illustrated shortly. The sign for GLOBE is shown as a circle (standing for Earth) with a horizontal line (standing for equator). Of course, there are many circular objects, small and large and extra large (like a globe). In order to differentiate between the signs representing different such objects one has to insert additional auxiliary markers. Thus the sign for BALL has semicircles suggesting the standard shape of tennis ball, the sign for BUTTON has four holes thus typifying buttons (some of which have only two visible holes or invisible holes). In addition to GLOBE (with the line for equator) we have signs for ATOM and CELL shown by inserting plus and minus signs into the circles. The plus sign is suggestive of atoms







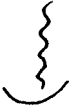




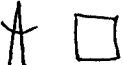













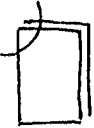




having charge and the minus sign symbolizes that cells have a nucleus. The sign for KNIFE is drawn as very sharp object. Finally the sign for nose is a caricature of a NOSE (and is not dissimilar form such sign in kanji). Similarly is also the sign for TEETH represented very schematically, and resemble more the teeth of a saw, than human teeth, which are not so sharp. But there are teeth that are very sharp, which have a triangular shape, like for instance teeth of a shark. More likely for most of us is to meet teeth of a dog not of a shark, which however can lead be very painful even if not tragic experience. Because of that the sign for teeth in Nobel also stand for DOG. The sign for ENVELOPE is shown as an open letter, while the sign for SIGNAL has an appearance as one can see on records of healthy hearts on electrocardiograms. Signals of similar shape appear on various instruments and they in fact represent technically the derivative of the actual signal, which is usually in the shape of tall narrow wave, technically referred to as soliton (Latin and Italian “solo” = “single”), a solitary wave that propagates retaining its shape:

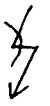
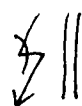
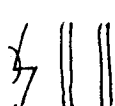



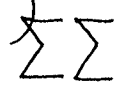
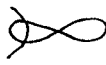


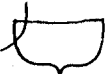










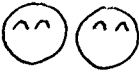

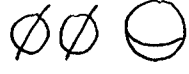


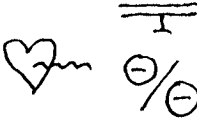





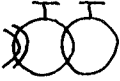
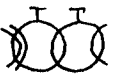


















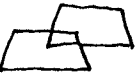
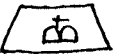
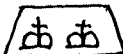
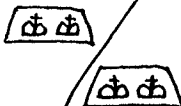



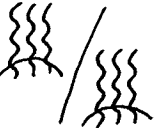
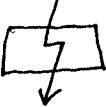

Derivative of a curve in fact describes the slope of a curve, which in the case of soliton is maximal at the half height on the left of the peak and minimal (equal magnitude but negative) at the right of the peak. More on this, for those who care, can be found in any Calculus book.

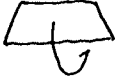



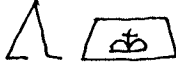

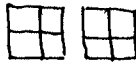


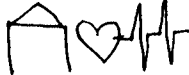



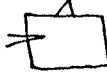












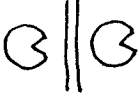

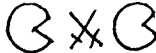

We continue with illustrations of combinations of signs just introduced, which as one can see, leads to not so modest increase of our current vocabulary in Nobel. The words are occasionally grouped for the sake of comparisons, but at the end, in alphabetical order, we give some comments and explanations for all, over 250, signs shown. In order to break the monotony occasionally we digress and touch on some interesting side-details as well as on some painful memories, however, all the comments, tend to be informative, adding thus an educational component to the learning of Nobel. Traveling foreign countries just as learning foreign languages is broadening our horizons, and Nobel is trying to share this experience.






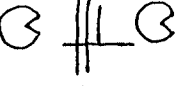


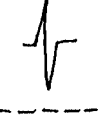
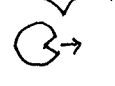







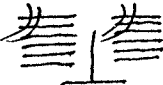
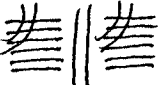

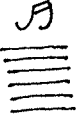
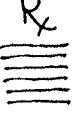








 NOON	 HIGH NOON	 LUNCH <i>noon meal</i>	 EVENING <i>part of time</i>	 SUPPER <i>evening meal</i>
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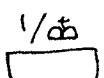





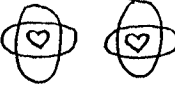









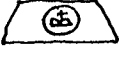



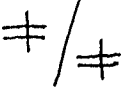





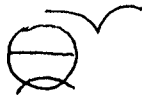
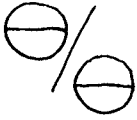
 <p>APE <i>brain – not brain</i></p>	 <p>MASK <i>face – not face</i></p>	 <p>HEAT <i>above fire</i></p>	 <p>ASHES <i>below fire</i></p>	 <p>HARA-KIRI <i>knife in belly</i></p>
 <p>BELLY DANCE</p>	 <p>INCENSE <i>smoke above</i></p>	 <p>CANDLE <i>flame above</i></p>	 <p>TORCH <i>fire above</i></p>	 <p>HOUR <i>part of day</i></p>
 <p>TRIANGLE</p>	 <p>SQUARE</p>	 <p>RHOMBUS</p>	 <p>SPHERE</p>	 <p>TOP</p>
 <p>BOTTOM</p>	 <p>EXTREME <i>top and bottom</i></p>	 <p>SPIKE <i>part of signal</i></p>	 <p>VIEW <i>above eye</i></p>	 <p>APPEAR <i>below eye</i></p>
 <p>BITE <i>part of apple</i></p>	 <p>THORN <i>part of hook</i></p>	 <p>WING <i>part of bird</i></p>	 <p>ROOM <i>part of house</i></p>	 <p>FEATHER <i>part of wing</i></p>
 <p>CHAPTER <i>part of book</i></p>	 <p>PROLOGUE <i>detail of book</i></p>	 <p>EPILOGUE <i>detail of book</i></p>	 <p>BRANCH <i>part of tree</i></p>	 <p>TWIG <i>part of branch</i></p>








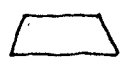
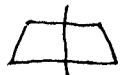
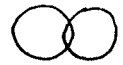

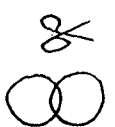
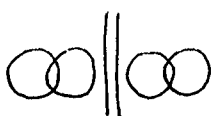
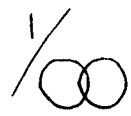
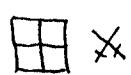

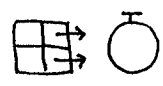





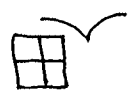

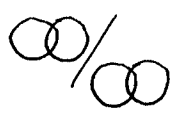




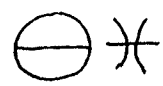
				
LIGHT <i>part of lightning</i>	BEAM <i>parallel light</i>	LASER <i>parallel beam</i>	MORNING <i>first part of day</i>	AFTERNOON <i>last part of day</i>
				
DETAIL <i>part of part</i>	SUBTOTAL <i>part of total</i>	FINITE <i>part of infinite</i>	FRAGMENT <i>part of hard</i>	CHIP <i>part of fragment</i>
				
REGION <i>part of a country</i>	AMPUTATION <i>cut part of body</i>	BIOPSY <i>cut detail of a body</i>	THIN <i>above close to below</i>	THICK <i>not thin</i>
				
AIR <i>overlapping above</i>	ATMOSPHERE <i>overlapping air</i>	KILL <i>knife in heart</i>	INJURE <i>knife in body</i>	SCAR <i>path of injury</i>
				
BUBBLE <i>air under water</i>	ALERT <i>awake awake</i>	IGNORANT <i>empty brain</i>	TABULA RASA <i>empty empty brain</i>	CELL DIVISION (MITOSIS)
				
CANCER <i>uncontrolled cell division</i>	LEUKEMIA <i>blood cancer</i>	TELESCOPE	MICROSCOPE	SOIL <i>top part of ground</i>















				
MINUTE <i>part of hour</i>	SECOND <i>part of minute</i>	ORGAN <i>part of body</i>	TISSUE <i>part of organ</i>	TOOTH <i>part of teeth</i>
				
HEEL <i>part of legs</i>	BRIM <i>part of glass</i>	STAMP <i>part of letter</i>	RIM <i>part of a wheel</i>	FIGHT <i>part of battle</i>
				
NOISE <i>not signal</i>	ELECTRO-CARDIOGRAM	LANGUAGE <i>sign between mouth</i>	LOUD <i>mouth above</i>	SHOUT <i>above loud</i>
				
WHISPER <i>mouth below</i>	SLICE <i>cut thin</i>	MIDNIGHT <i>opposite to noon</i>	TACIT <i>mouth and not</i>	AMONG <i>between between</i>
				
METAL <i>overlapping heavy</i>	SILVER <i>heavy & crown</i>	GOLD <i>more than silver</i>	FOOL'S GOLD (PYRITE) <i>gold / not gold</i>	GOLD STANDARD <i>gold on podium</i>
				
BULLDOG <i>square face dog</i>	MERCURY <i>liquid metal</i>	CINDER <i>ash not ash</i>	COPPER <i>electricity metal</i>	LEAD <i>soft metal</i>

 <p>MAGNET <i>metal & hook</i></p>	 <p>REPRISAL <i>injury against injury</i></p>	 <p>CHAIN <i>overlapping rings</i></p>	 <p>FREE <i>no chains</i></p>	 <p>CHALLENGE <i>silver ahead</i></p>
 <p>BENEFIT <i>silver behind</i></p>	 <p>PLANTATION <i>fields fields</i></p>	 <p>LIFE <i>heart signal</i></p>	 <p>LIVING <i>life life</i></p>	 <p>RESIDENCE <i>house of living</i></p>
 <p>INVESTIGATE</p>	 <p>BARE <i>without cover</i></p>	 <p>CRIME <i>lot of injury</i></p>	 <p>VANDALISM <i>damage picture</i></p>	 <p>SABOTAGE <i>damage factory</i></p>
 <p>DAMAGE</p>	 <p>RUIN <i>damaged house</i></p>	 <p>MASSACRE <i>kill kill</i></p>	 <p>GENOCIDE <i>kill kill kill</i></p>	 <p>OVERKILL <i>kill killed</i></p>
 <p>ASSASSINATION <i>kill authority</i></p>	 <p>CRITICAL <i>life -death</i></p>	 <p>FIRE RETARDANT</p>	 <p>SING <i>mouth & music</i></p>	 <p>MUFFLER <i>kill noise</i></p>
 <p>BEAK <i>bird mouth</i></p>	 <p>CONVERSATION <i>mouth parallel</i></p>	 <p>ARGUE <i>mouth perpendicular</i></p>	 <p>QUARREL <i>mouth battle</i></p>	 <p>SPELL <i>speak alphabet</i></p>

				
CAT <i>not dog</i>	BEAR <i>teeth teeth</i>	TIGER <i>not a bear</i>	MOLECULE <i>touching atoms</i>	BOND <i>overlapping atoms</i>
				
DISCUSS <i>conversation & argue</i>	QUANTITY <i>lot of signals</i>	QUALITY <i>ratio signal to noise</i>	SIGNATURE <i>signal path</i>	PARROT <i>speaking bird</i>
				
CATCUS <i>plant with many spikes</i>	LAUGH <i>smile smile</i>	SERIOUS <i>not smile</i>	SOLEMN <i>not laugh</i>	COMEDY <i>laugh & text</i>
				
SENTENCE <i>part of text</i>	WORD <i>detail of text</i>	DICTIONARY <i>word against word</i>	THESAURUS <i>word parallel word</i>	RECIPE <i>text on food</i>
				
LIBRETTO <i>musical text</i>	PRESCRIPTION <i>medical text</i>	AUSTRO-HUNGARY <i>dual monarchy</i>	AUSTRIA <i>west part</i>	HUNGARY <i>east part</i>
				
ANTHEM <i>country & music</i>	COAT-OF-ARMS	CURRENCY <i>country money</i>	MONKEY <i>brain – no face</i>	COUGAR <i>mountain teeth</i>

 <p>COUNTY <i>detail of a country</i></p>	 <p>MONARCHY <i>crown & country</i></p>	 <p>PRINCIPALITY <i>not kingdom</i></p>	 <p>REPUBLIC <i>country & king not king</i></p>	 <p>UTOPIA <i>dream country</i></p>
 <p>PIPE <i>part of pipe & vent</i></p>	 <p>VENT <i>part of pipe & vent</i></p>	 <p>MAP <i>picture & globe</i></p>	 <p>INDULGE <i>lot of satisfaction</i></p>	 <p>EMPIRE <i>country over country</i></p>
 <p>HILARIOUS <i>laugh laugh</i></p>	 <p>INCOMPLETE <i>not complete</i></p>	 <p>DEFICIENT <i>complete & not</i></p>	 <p>FEDERATION</p>	 <p>CONFEDERACY</p>
 <p>SIMILAR <i>equal but not</i></p>	 <p>BLOW <i>part of fight</i></p>	 <p>GOLD COIN <i>gold & money</i></p>	 <p>SILVER COIN <i>silver & money</i></p>	 <p>AVERAGE <i>middle between</i></p>
 <p>ATLAS <i>book & globe</i></p>	 <p>AUSTRALIA <i>down under</i></p>	 <p>DISSIMILAR <i>different & not</i></p>	 <p>HARDCOVER <i>book & hard</i></p>	 <p>PAPERBACK <i>book & soft</i></p>
 <p>ROMANCE <i>book & heart</i></p>	 <p>ARCTIC <i>part of globe</i></p>	 <p>ANTARCTIC <i>part of globe</i></p>	 <p>PENGUIN <i>Antarctic bird</i></p>	 <p>CONTINENT <i>global & local</i></p>

 <p>SUB-CONTINENT <i>part of continent</i></p>	 <p>LOCAL <i>not global</i></p>	 <p>NATIONAL <i>between state</i></p>	 <p>INTER-NATIONAL <i>among states</i></p>	 <p>MIGRATORY BIRD <i>bird & globe</i></p>
 <p>TIRE <i>soft part of wheel</i></p>	 <p>DIFFICULTY <i>heavy heavy</i></p>	 <p>HEAVY <i>basic sign</i></p>	 <p>LIGHT <i>not heavy</i></p>	 <p>MARRIAGE <i>overlapping rings</i></p>
 <p>SINGLE <i>without marriage</i></p>	 <p>DIVORCE <i>cut marriage</i></p>	 <p>BIGAMY <i>parallel marriage</i></p>	 <p>CELIBACY <i>no marriage</i></p>	 <p>BATTLEFIELD <i>field & battle</i></p>
 <p>ORCHARD <i>fruit field</i></p>	 <p>HARVEST <i>time of crop</i></p>	 <p>SEED <i>into field</i></p>	 <p>CROP <i>out of field</i></p>	 <p>CULTIVATE <i>seed and harvest</i></p>
 <p>MEADOW <i>grass field</i></p>	 <p>GARDEN <i>part of field</i></p>	 <p>PHEASANT <i>bird of fields</i></p>	 <p>SLAVERY <i>equal chains</i></p>	 <p>COHABIT <i>marriage not a marriage</i></p>
 <p>SLAVER <i>ship & chains</i></p>	 <p>SLAVE TRADE <i>slave & money</i></p>	 <p>MARRIAGE FOR LOVE</p>	 <p>MARRIAGE FOR MONEY</p>	 <p>WORLDWIDE <i>world wide</i></p>

				
EAST <i>shown on globe</i>	WEST <i>shown on globe</i>	NORTH <i>shown on globe</i>	SOUTH <i>shown on globe</i>	EQUATOR <i>emphasized on globe</i>
				
ECUADOR <i>state at the equator</i>	TROPIC <i>part of equatorial region</i>	ENCOUNTER <i>come face to face</i>	VIS-À-VIS <i>face against face</i>	POLYMER <i>touching molecules</i>
				
DNA <i>molecule of life</i>	PROTEIN <i>molecule of living</i>	SAME <i>equal above and below</i>	BULL'S EYE <i>center of target</i>	

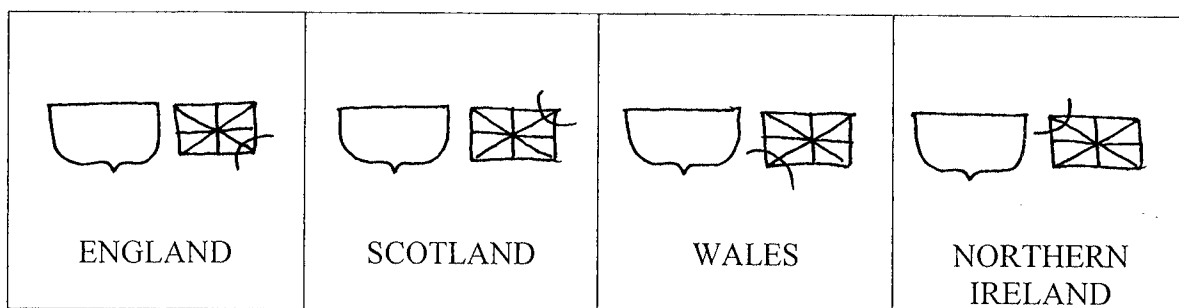
The descriptions given for various combinations are very terse at best and in case of some words shown they leave room for imagination, while in some cases may even have not be warranted. Let us briefly comment on few.

The sign for FINITE is shown as “part of infinite” which seems appropriate though mathematicians may frown, not because it is not correct, but is incomplete, being a truth but not the whole truth! Namely part of infinite can be finite but can also be infinite. To see and understand this, simply consider all positive integers: 1, 2, 3, an infinite collection, because there is no end in counting. Now if one considers all number less than hundred, which is a PART of an infinite sequence of numbers, there is FINITE number of those, but if one considers all numbers greater than hundred, which is again a PART of an infinite sequence of numbers, their number is infinite – showing thus that part of infinite can be finite and infinite. Well, Nobel is a language is not mathematics and may allow minor mathematical digressions, just as is the case with natural languages. For instance it is not uncommon to hear lovers speaking of an infinite love – but how you measure infinity?

Another sign that deserves an expanded comment is the sign for AIR. Clearly the word “air” represents a challenge for pictographic languages as it has no form, it is invisible although it is all around us and we can feel it (especially on windy winter days) if not touching it. Nobel resolve the challenge by simply combining the ABOVE signs, on the basis that air is overlapping above the ground. For simplicity GROUND is not shown, though it is implied.

Finally, before we describe the signs just introduced let us comment also on the signs for AUSTRIA and HUNGARY, two countries left after collapse AUSTRO-HUNGARY at the end of 1914-1918 WW I. Their signs reveal some of the potential in Nobel in *positioning* components of a sign when new signs are made as *parts* of existing signs. Austro-Hungary included some dozen nationalities beyond Austrians and Hungarians: Poles, Italians, Czechs, Slovaks, Ukrainians, Rusyns, Romanians, Slovenes, Croats, Bosnians, Serbs and Romanies (Gypsies), Austria being at (and controlling) the west of the “Dual Monarchy,” as the country was known internally, and Hungary at (and controlling) the east. Known as *Dual Monarchy* give rise to the sign of Austro-Hungary as a country with *two crowns*, which form the basis for the sign for AUSTRIA as *western part* and HUNGARY as *eastern part* of Austro-Hungary.

The same approach, as shown below, applied to Union Jack (the flag of Great Britain and now United Kingdom) leads to signs for England, Scotland, Wales and Northern Ireland:



The same “technique” could be applied to other countries and other objects. Thus when extended to PIPE & VENT one arrives at signs for PIPE and sign for VENT. But there are also limitations of this kind of design of novel signs. Consider, for example, former YUGOSLAVIA, which when collapsed in 1991 gave rise to six countries (alphabetically): BOSNIA AND HERZEGOVINA; CROATIA; MACEDONIA; MONTENEGRO; SERBIA and SLOVENIA. Even if we would like to use corners of hexagon to represent the six countries, the geography of the region is more complicated. Thus, for example, Bosnia is in the center of Croatia (and historically was part of Croatia some 500 years ago before it fell to Turkish onslaught and became part of Ottoman Empire). Croatia is one of few countries without center (i.e., the geographic center of the county is outside the country). So to come to a sign for Yugoslavia different approach has to be taken. So we decided that the sign for Yugoslavia be based on the more recent history of the country, actually on its disappearance. The country was mostly the design of English and French after WW I, who knew little of aspirations of people not even

some thousand miles away. As some may recall, Yugoslavia disintegrated, and in fact did not exist, but politicians and military in Belgrade insisted on calling the remnant part of the country (Serbia and Montenegro) “Yugoslavia.” This incident led to the sign for Yugoslavia (to be illustrated in the coming second part of the book, where there are signs for some 60 countries). There the sign for Yugoslavia is shown as the country which *exists and does not exist*.

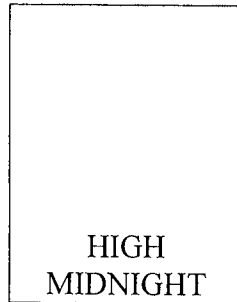
There is one additional sign that we have to introduce, which will later found considerable use. We have seen the sign for WITHOUT but what about the sign for WITH? Here it is:



The sign can be looked as the beginning of the sign WITHOUT, and with some imagination one can think of WITHOUT as being constructed by crossing the sign for WITH, although WITH was derived from WITHOUT, not the other way round. We will see considerable use of this sign on coming pages, even though the sign WITHOUT has a higher frequency of occurrence.

In order to proceed we have limited the above illustrations to some 250 words even though we could have constructed five times more. It is difficult to exhaust possibilities for construction of additional combinations of already introduced signs. All one has to do is to browse through a larger dictionary, which would bring new words under consideration. Potential of Nobel for development, that is, for extending in the future, has been already demonstrated by the sign for WORLD PEACE, the word you will not find in dictionaries. For example, a sizable Merriam Webster's Collegiate Dictionary (tenth edition, 1993) lists 20 entries involving the word *world*, including world war (defined as “a war engaged in by all or most of the principal nations of the world”), but of course, does not list the word *world peace*. This is not surprising, because there is no such in recent history. The 20th century has been marked and marred by two world wars and hostilities that extended into Cold War for the most of the time after the wars. Hopefully the 21st century will bring us, if not World Peace - at least Cold Peace, which would be better than Cold War. The signs for Cold War and Cold Peace can be easily constructed in Nobel by combining the signs for COLD (to be introduced later), the sign for WAR, and the sign for PEACE.

There is another word, the word of the past, the present and the future, which will not be found in most dictionaries of any language, if in any, yet it is associated with a simple sign in Nobel. We have seen the very simple sign for the word HIGH NOON, the opposite of which gives us the sign for HIGH MIDNIGHT:



In a way it is somewhat surprising that such word has not received acknowledgment in public and in dictionaries, in view that it is in a way more important than HIGH NOON. The extent to which most people have been acquainted with “high noon” is when it received much attention through an outstanding western film, considered by some as possibly all-time the best western, with Garry Cooper and Grace Kelly as the lead actors (directed by Fred Zinneman, filmed in 1952). In contrast HIGH MIDNIGHT every night changes the date, every year change the year, every century changes the century and once in a while changes millennium – aren’t these not important times? Yes, they are. And HIGH MIDNIGHT can do even more, as was the case with the December 31 of 1999 when the entire World celebrated coming 21st century – a year ahead! Strictly speaking the 21st century started after December 31 of 2000, as has been noted by those with more acute technical education. This reminds me of a true birth date of my mother, which was around Christmas 1899, few days before 1900. My grandmother wished that my mother be born in coming 20th century, and arranged with local priest to change records and set the date of her daughter for mid January 1900 – which, speaking again technically, was 19th century and all the effort was unnecessary!

We will later demonstrate the “power” of Nobel by revisiting a single sign, that of HEART, and will on this sign illustrate multitude of combinatorial possibilities that results from combinations of signs and arrows of Nobel. Let us comments on those 250 or so signs from the previous few pages.

AFTERNOON = *part of the time*. It would be better to define afternoon as a part of a day, but we use *part of day* in Nobel to stand for hour. In a similar way are constructed signs for *morning*, *noon* and *evening*, where the positioning of the overlap suggests the time of the day. The sign for *day* is shown as *overlapping time*, and with two time signs would be less suitable for indication of noon and evening.

AIR = *overlapping above*. It is not easy to come with a sign for something that is invisible, like air. We took advantage that air is *above* ground, which lead to the sign *overlapping above*.

ALERT = *awake awake*. To be *watchful and quick to act* (as dictionaries define *alert*) one has to be more than awake, hence emphasizing awake!

ALUMINUM = *common heavy*. Besides being the lightest metal aluminum is also the most abundant metal on Earth, constituting 8 % of the Earth’s crust. It is destined

- to become the most widespread metal, that is, the most *common* of metals in the future, if it is not already now. So it is shown as *common heavy*. The sign for *common* is shown as *overlapping parts*.
- AMONG = *between between*. Emphasizing *between* suggest being surrounded, that is, being *among*.
- AMPUTATION = *cutting part of the body*. Compare the signs for *surgery*, *amputation* and *biopsy*, which show as cutting body, part of the body and detail of the body.
- ANTARCTIC = the most *southern part of the globe*.
- ANTHEM = *country tune*. *Country* is shown as a *shield* (countries are supposed to *shield* their people and some do). *Tune* is symbolized by the sign of *musical note*.
- APE = *brain – no brain*. Among animals apes are clearly at the top regarding their brain functions, but compared to humans, they are still some distance behind. This is summarized in the sign *brain – no brain*.
- APPEAR = *under eye*. *Appear* means to become visible and this can be represented as coming *under eye*.
- ARCTIC = the most *northern part of the globe*.
- ARGUE = *mouth against mouth*. *Against* is shown as being *perpendicular*.
- ASHES = *under fire*. Ashes are *under fire* and whatever is left after fire.
- ASSASSINATION = *kill authority*. *Knife into heart* kills. *Authority* is suggested by the sign of *crown*, symbol of kings. Most assassinations involve higher authorities, such as kings, presidents, and leading politicians.
- ATMOSPHERE = *overlapping air*. Air is *overlapping above* the ground.
- AUSTRALIA = *down under*. “Down Under” is the standard reference to Australia in England, which then I presume, becomes “Up Above” country. I have made but a single short three weeks visit to Australia and New Zealand, too short to investigate such linguistic perplexities. Be as it may, *down under* give Nobel opportunity for simple sign to represent *Australia*.
- AUSTRIA = *western part of Austro-Hungary*.
- AUSTRO-HUNGARY = *dual monarchy*. Hence a country with two crowns.
- AUTUMN = *season of fruits*. Autumn and Fall are precise synonyms, and hence there is no need to have two different signs for them. Some synonyms have close meaning but differ slightly, in which case there is room for two alternative signs.
- AVERAGE = *middle between*. *Middle* is shown as a *line through middle* of a *circle*. This is essentially the same as Chinese character for middle, which is a line across a square (that stands for circle, as Chinese characters tend to have angular (square) form rather than being round).
- BARE = *without cover*. The sign for *cover* is shown as *overlapping below*. The sign for *below* is shown as semicircle curved down, which looks like a *cover*.
- BATTLEFIELD = *field & battle*.
- BEAK = *bird mouth*.
- BEAM = parallel light. *Light* is shown as part of *electricity* (in fact it should be part of I, which is shown in Nobel as “*lot of electricity*,” but for simplicity we use just single electricity sign here).
- BEAR = *teeth teeth*. The sign of *teeth* stand also for *dog*, to remind one of fierce dogs (such as Doberman pinscher) whose teeth can be a threat. In comparison to teeth

- of bear are by far more threatening and dangerous, hence doubling the sign for teeth.
- BELLY DANCE = *belly & music*. *Belly* is shown as the *lower part of the body*. *Dance* is shown as *legs* and *music*, which explains to the sign for belly dance.
- BENEFIT = have *silver behind*. The sign is related to the sign for ADVANTAGE, which is represented as having burden behind, and which is to be contrasted to the sign for BURDEN, which is represented as having burden ahead. "Silver behind" symbolizes what is sometimes referred to as "being born with a silver spoon in a mouth."
- BIGAMY = *parallel marriage*. The practice of having *parallel marriage*, which is illegal in all countries, is different from practice of having two or more wife (as is the case with Moslems in some countries and was the practice of early Mormons), which has been legal. In the former case neither wife knows of her competition! So we need different signs for the two situations and we use *parallel marriage* and *perpendicular marriage* to differentiate the two.
- BIOPSY = *detail of surgery*. *Biopsy* often precedes *surgery* and is technically and literary a "detail" of the procedure.
- BITE = part of apple. Of course one can bite other things, and we selected apple, being one of the common fruits, not because of the biblical story of Adam and Eve.
- BLOW = *detail of a battle = part of fight*. In a battle there is lot of fighting, so *fight* makes *part of battle*. In a fight there is lot of blows, so *blow* makes *part of fight*, and become a *detail of a battle*.
- BOND = *overlapping atoms*. *Overlap of atoms* forms chemical *bond*, and chemical bonds tend to be strong, sometimes very strong. One tends to overlook chemistry behind many kinds of bonds, including glue, and magic glue and thus it appears appropriate to base a sign for *bond* on *overlapping atoms*, although there are other kinds of bonding.
- BOTTOM = *lower part of a mountain*. Many objects have top part and bottom part, but top parts and bottom parts of mountains are most visible, so *mountain* has been selected for the sign for *bottom*.
- BRANCH = *part of a tree*. There are other parts of tree, like stem, roots, tree top, twigs, and even stump, after tree has been cut. The signs for branch, tree top and root are similar, all being shown as parts of a tree, but positioned differently: at the side for *branch*, at the top for *tree top*, and at the bottom for *tree root*.
- BRIM = *part of a wineglass*. *Brim* is an outer edge of any hollow object, including hat, and glass (*wineglass*) was selected as being common and easily recognized "hollow object."
- BUBBLE = *air under water*. Bubbles are formed when air or other gas is under water. We selected *air* as the gas, air bubbles being the most common bubbles seen, often daily when boiling water, though other kind of bubbles need not be uncommon, such as bubbles in coke, soda and beer, to mention few common drinks.
- BULLDOG = *square face dog*. Breed of dogs with strong jaw used in England to fight bulls. Because of the strong jaw their *face* appears, at least from a distance, somewhat *square*.

- CACTUS = *plant with many spikes*. *Spike* is shown as top part of the sign SIGNAL, which is sharp enough to represent spike.
- CANCER = *uncontrolled cell division*. Dreadful cancer is, one can say, a molecular illness, caused by continuous cell division. *Cell division* (mitosis) is natural process but in the case of cancer it continues *uncontrolled* spreading and eventually destroying enough of healthy cells to cause death.
- CANDLE = *flame above*. *Flame*, suggest tip of the burning *candle* and the sign *above* suggests that the flame can be carried. Similar to the sign for candle are the signs for *incense*, as *smoke above* and the sign for *torch* as *fire above*.
- CAT = *not dog*. The sign for cat is based on strong association dog – cat, the two most common domestic pets. Other similar strong associations involve coffee – tee, or fruit – vegetable, all of which are shown as reciprocals.
- CELIBACY = *not marriage*. Celibacy is here presented as the opposite to marriage, hence use of *reciprocal*.
- CELL DIVISION = *cell division*. Here we have interpreted the slash as the mathematical sign for division, such as slash used in 1/2, 2/3, etc.
- CHAIN = *overlapping rings*. *Overlapping rings* means “lot of rings,” which makes chain. A *pair of overlapping rings* is in Nobel a sign for *marriage*, which is also viewed by some, especially some unhappy couples, as a kind of chain.
- CHAPTER = *part of book*. Book, like many things has several parts, like *chapter*, *prologue*, and *epilogue*. Nobel differentiates *chapter*, *prologue*, and *epilogue* by positioning the sign for *part* at the *side*, at the *top left corner* and at the *bottom right corner*, respectively. See a similar situation with, for example, the signs for parts of tree: *branch*, *stem*, *top of tree* and *root*.
- CHALLENGE = *silver ahead*. At first glance this combination is perplexing. However, recall the sign for *burden*, which is shown as having *difficulty ahead*. But if the difficulty ahead is very valuable than it presents a challenge!
- CHIP = *part of a fragment* = *detail of hard* (object).
- CINDER = ashes and not ashes. ASHES = *below fire*.
- COAT-OF-ARMS = *country symbol*. Symbol is something that represents another thing to which it is related, associated, has resemblance, or is assigned by convention. In Nobel *symbol* is shown as a *sign on podium*, which by implication suggest its publicity.
- COMEDY = laugh & text. *Comedy* is *text* that should bring *laugh*.
- COMMUNICATION = *sign between persons*. One can communicate messages with limited set of signs, such as are symbols used in astronomy, biology and chemistry, symbols used in mathematics, electrical symbols, map and chart symbols, weather symbols, musical symbols, proof readers marks, religious symbols, Zodiac signs, international road signs, sign of manual language, semaphore code, distress signals, and ship flag signals. None of this is language, except for the manual signs, yet all may *communicate* important and critical information, as is suggested by a *sign between persons*.
- CONFEDERACY = *weakly overlapping countries*. Federacy and confederacy are forms of strongly and weakly interacting states, respectively, that is, states with lesser and greater self-governments. In Nobel both are represented as *overlapping countries* (states), the difference is in the degree of overlap.

- CONTINENT = *global and local*. Continent is sizable part of globe and is not globe, hence, globe and not globe.
- CONVERSATION = *parallel mouth*. Conversations are usually informal, pleasant exchange of thought, views and news, hence the use of the sign of the sign of *parallel*, which in general stand for *agreement*. In contrast *argue* is in Nobel represented as *perpendicular mouth*, and the sign of *perpendicular* in general stand for *against*.
- COPPER = *electricity metal*. Metal is shown as *heavy* (difficult) object. Copper is very good electricity conductance metal so we use the sign of electricity as an indicator. Silver is even better electricity conductor, but is more expensive and is therefore not used for making electric wires, except in special cases.
- COUGAR = *mountain big cat*. The sign for *cat* is *opposite to dog*, thus *big cat* is shown as using the *teeth* sign *twice*. The plain sign *big cat* in Nobel stands for *tiger*, which is the biggest cat (particularly endangered Siberian tiger). Some could have expected that the sign “big cat” should stand for lion, but *lion* is represented in Nobel as “*king of animals*,” attribute that he may or may not deserve, because the outcome of a fight between lion and tiger are somewhat unclear (the both animals live in some proximity only in India). Be as it may, because we have sign for lion, let *tiger* keep the title of “*the big cat*.”
- COUNTY = *part of region = detail of a country*. Region is shown in Nobel as *part of a country*. County is still smaller (usually administrative) unit of a country, thus can be viewed as a detail of a country. For example, Iowa, which is between Mississippi on the east and Missouri on the west and is about 300 miles across and 200 miles from the northern border with Minnesota and the southern border of Missouri has 100 counties, so counties cannot be large (at least in Iowa).
- CRIME = *injure injured*. There are so many different crimes and we need a simple solution! To stab a knife in someone else body is a crime, the seriousness of which can be measured by the depth of the injury and the site of the injury. But it need not be crime, it can be superficial and unintentional. So in Nobel *knife into body* is taken to represent *injury*, not a crime. However, *knife into injured* is definitely a *crime*, and most often a serious crime – so we solved the problem!
- CRITICAL = *life or death*. Life is shown as *heart signal*, death is the *opposite*, hence use of the fraction.
- CROP = *out of field*.
- CRY = *shout shout*. The sign for *loud* is *above mouth*, implying *above* normal voice of *mouth*. The sign for *shout* is *loud loud*, implying *above above* normal voice of *mouth*. Hence, the sign for *cry* is *shout shout*, implying *above above above* normal voice of *mouth*.
- CULTIVATE = *seed and harvest*.
- CURRENCY = *country money*.
- DAMAGE = *knife into suitcase*. Clearly by pushing *knife into suitcase* one will make *damage*, though such instances of damage must be very rare. Most damages to suitcase occur at airports, where suitcases are handled by professionals who are not enough professional. On my recent trip I departed Des Moines, Iowa (USA) with two suitcases, and traveled via Chicago, Frankfurt and Madrid to arrive at Santiago de Compostella in Galicia, North West part of Spain. On my arrival I

- was to collect *three* suitcases! One suitcase was fully broken into two parts and each half packed in heavy plastic bag. Even knives could not do such damage.
- DEFICIENT = *complete and not complete*. If one buys something, particularly something new, one expects it to be complete, not having missing parts. But if there are some missing part then what was supposed to be *complete is not complete*, it is *deficient*.
- DETAIL = *part of part*.
- DICTIONARY = *word against word*. Pick up any *dictionary*, particularly dictionaries between different languages, there you will find listing of *words against words*.
- DIFFICULTY = heavy heavy
- DISCUSS = *converse and argue*. In discussions sometimes one has to argue besides agreeing, hence the sign for *discuss* can be viewed as a superposition of conversation (*parallel mouth*) and argue (*perpendicular mouth*).
- DISSIMILAR = *different and not different*. Objects which are *dissimilar* may have some parts similar while other parts are different, hence they are *different and* (in some parts) *not different*. Compare this with the sign for *similar*, which is in Nobel shown as *equal and not equal*.
- DIVORCE = *cut marriage*. Simple and clear sign for complicated and unclear process!
- DNA = *molecule of life*. DNA form molecular base of heredity – thus is essence to perpetuation of life. Its structure was reported by Francis Crick and James Watson just about fifty years ago (in 1958) and consist of double helix held together by weaker bonds (bonded by hydrogen atoms located between two oxygen atoms, the so called hydrogen bonds).
- EAST = *east direction of globe*.
- EASY = *crossed difficult*. *Difficult* is shown as a heavy (weight).
- ECUADOR = *country identified by equator*.
- ELECTROCARDIOGRAM = *heart beat picture*.
- EMPIRE = *cCountry over country*. This was the case with Roman Empire, British Empire, Ottoman Empire, Russian Empire and many others that have not called themselves empire, but were dominating other countries.
- ENCOUNTER = *come face to face*. The sign for *come* is shown by *legs*, while *face to face* (*vis-à-vis*) is shown as *face against face*. *Against* is shown as *perpendicular*.
- EPILOGUE = *detail at the end part of a book*. (compare with PROLOGUE)
- EQUATOR = *emphasized on the sign of globe*.
- EVENING = part of time (see for more: AFTERNOON)
- EXTREME = *top and bottom*. Shown as the *top and the bottom* of a *mountain*. Indeed, on the case of mountains those are the extremes.
- DETAIL = *part of part*.
- FALL = *season of fruits*.
- FEAR = *teeth in body and mind*. This sign is among some that are, at the first sight, in a way the most abstract – yet, as one will see, the sign does maintain close relationship with what it represent, once it is explained. *Fear* is an unpleasant and threatening emotion of *body and mind* caused by awareness of an immediate danger. It is not uncommon to experience such emotion in childhood and even in later years when approach by an unfriendly dog (*teeth*). As just as the sign for *satisfaction* is in Nobel represented by inserting *heart* into *overlapping signs of*

body and mind so in parallel Nobel encrypts *fear* by inserting *teeth* (symbolizing threat of an unfriendly dog) in *overlapping signs of body and mind*.

FEARFUL = *with fear*.

FEARLESS = *without fear*.

FEATHER = *part of wing = detail of bird*. Birds have feather all over their bodies, not only wings, though those of the wing tend to be the largest (of course, with exceptions, such as are the tail feathers of peacock). Wings have not been selected because of the size of feathers but because it is easy to draw bird and identify wings.

FEDERATION = *strong overlap of countries* (states). Compare to the sign for *confederation*, which is shown as a *weak overlap of countries* (states).

FIGHT = *part of a battle*.

FINITE = *part of infinite*. Again one of half-truths, because part of infinite can also be infinite. Consider a line, it has infinite length and contains infinite number of points. But so does half a line.

FIRE RETARDANT = *kills fire*.

FRAGMENT = *part of hard object*. *Hard* is one of the basic signs, which is in a form of a *diamond* (rhombus), diamond being the hardest natural substance, being number 10 on the Friedrich Mohs' (1773-1839) scale 0 – 10 of hardness, which list various minerals placing those that scratch others above on the scale. Talc (basic magnesium silicate mineral, which in compacted form appears as soap stone), for example, is of hardness # 1 (that means extremely soft).

FREE = not *chains*. "Not" is shown by *crossing*.

GARDEN = *part of field*.

GENOCIDE = *kill, kill, kill*. It is bad to kill a single person (children, sick and old included). It is bad to legally kill (execute), not only because occasional an innocent is mistaken for guilty (or deliberately mistaken) but because it is unnatural and anti-natural. Animals (and few plants) kill for food, not for entertainment or rage. Humans appear exception as, besides "usual" killing they introduce serial killing (unknown among animals), when a single sick mind perpetuate killings; massacre when gangs perpetuate killings of their opponents; and genocide when politicians, generals and governments arrange killings of minorities on a large scale. This was the case with million of Armenians killed by Turkish authorities approval in 1900s, several million Jews exterminated by Nazi during WW II in Dachau, Buchenwald, Belsen, Mathausen and dozen other concentration camps thought-out the "Gross Deutschland" of Hitler, thousands of Jews, Serbs, and Romanies (Gypsies) and other "undesirables" killed by puppet quisling Ustashe government of Croatia in Jasenovac in 1941-1945 era of WW II. Of hundreds thousand killed camp records on some 36,000 victims survived (and have been made available on internet by the Institute for Jasenovac, initiated by group of survivors, now in New York). In the list I found nine persons with rather uncommon surname Randić (there are less than around 50 people in Croatia and additional 50 the whole world with that surname). Two dozen housed of village of Kostrena St. Barbara at north Adriatic coast, which has at most some 100 houses, is called "Randići," from where all these people moved around. The nine victims mentioned (and thousands unmentioned) were all during WWII in

Partisans, and were most likely captured by Germans and delivered to Ustashe as war prisoners, but ended in the notorious Jasenovac camp.

One would think that with the end of WW II there will be end of this sad madness, but genocides continues. Tito is responsible for killing some hundred thousand of war prisoners who surrendered in Bleiburg (now in Austria). Killing war prisoners is not novelty. Russians killed during WWII, with approval of the entire Politburo and with signatures of Stalin and Beria, over 20,000 Polish military officers in Katyn around 1940, discovered by Germans in 1943. Let's mention few more recent genocides: killing of 5000 Kurds by nerve gas in 1988 by Saddam Hussein; massacre at large scale of Tutsi in Rwanda in 1994 by Hutu militia; and killing of Bosnian Moslem in July of 1995 in fictional "UN safe-haven" Srebrenica, by Serbian General Mladić, still at large. Genocides hopefully one day may stop, but our memories will continue and ought to be repeated.

GOLD = *silver silver*. As is well known sterling silver, (objects made of 925 parts of silver and 75 parts of copper) are all marked with sign so that they could be differentiated from silver-plated objects, which contain silver only on their surface. This official mark of authenticity we symbolized in Nobel with the sign of a *crown*. Similar practice is used to differentiate golden objects from gold-plated objects, so we inserted the sign of *two crowns* to signify gold. The sign of *three crowns* is reserved to indicate *platinum*, heavy, precious, ductile non corrosive metal, which is currently even more valuable than gold.

GOLD COIN = *golden money*. Sign obtained by superposition of the signs for *money* and *gold*.

GOLD STANDARD = *gold on podium*. Standard of the basic currency of a country in terms of gold of specified quality, hence the gold quality that is public, which is suggested by placing gold on a podium.

HARVEST = *time of crop*.

HEAT = *above fire*.

HEAVEN = *above sky*. The sign of *above* (semicircle open up) when *double* means *high above* and when *triple* stands for *sky*, which is *high high* above. Heaven, which is also a synonym for sky, but can stand also for place of Deity and the blessed dead, is shown by adding another semicircle to the sign for sky.

HEAVY = *basic sign*.

HEEL = *part of leg*.

HOUR = *part of day*. Day is shown as *overlapping time*.

HARA-KIRI = *knife in belly*. Ritual suicide practiced by Japanese samurai by pushing a sword into belly and cutting (hara in Japanese) belly (kiri in Japanese)

HARDCOVER = *hard & book*. *Hard* is shown as *diamond* (the hardest natural substance, allotrope of carbon. The other allotropes are graphite, black soft lustrous form of carbon used among other things in pencils, elusive fullerenes, apparently present but unnoticed in soot, and related nanotubes, both of more recent date. Fullerene C₆₀, built from 60 carbon atoms and named by Harry Kroto Buckminsterfullerene, to honor Buckminster Fuller, American designer of geodesic domes, in view that molecule has similar internal structure, was reported in first time in 1988.

HIGH ABOVE = *above above*.

- HIGH NOON = *part of noon*. In common parlance noon is the time around mid-day. *High noon* is the precise time of the noon, hence *part of noon*.
- HILARIOUS = *laugh laugh*. High spirit is indicated by excess of laugh – hence *hilarious* become “*lot of laugh*.”
- HOUR = *part of day*. To be exact it is 1/24 part of day.
- HUNGARY = eastern *part of Dual Monarchy* (Austro-Hungary).
- HUNGRY = *empty body*. Body here stands for stomach. The sign for “*empty*,” *crossed zero*, is mathematical sign of Set Theory, the branch of mathematics dealing with properties of collections of numbers (objects).
- IDIOT = *face and no brain*. Idiot is mentally retarded left with very little mental capacity, sometimes estimated at the level of child of three years old – but that may be misleading, because children of age three are mentally very alert. Hence, *idiot* has a *face*, but has *no brain*.
- IGNORANT = *empty brain*.
- INCENSE = *smoke above*. Like *candle (flame above)* and *torch (fire above)*, which can be stationary, *incense* can be stationary but can also be carried around, which is suggested by the sign *above*, which is also used for signs for *carry*, *bring* and *send* (to be introduced in the Part 2 of the book).
- INCOMPLETE = *not complete*. *Not* is shown by using *reciprocal*. The sign for *complete* is obtained by superimposing the sign of *body* and sign of *mind*. Body and mind make a *complete* person
- INDULGE = *lot of satisfaction*. “*Lot of*” is shown by *doubling*. *Satisfaction* is shown as *complete happiness*, that is, *happy body* and *happy mind*. “*Happy*” is here for simplicity shortened by using the sign of heart.
- INJURE = *knife in body*. Whether accidental or pushed deliberately, *knife in a body* cause *injury*.
- INTERNATIONAL = *among countries = between nations*. The sign “*between a country*” stands for “*inside a country*” and thus refer to *national* issues. Issues *among countries* or *between nations* then relates to *international issues*.
- INVESTIGATE = *magnifying magnifying glass*. Recall Sherlock Holmes, a character of Sir Arthur Conan Doyle (1859 – 1930) stories, a prototype of investigations, and his use of magnifying glass.
- KILL = *knife in heart*. Knife in heart is for sure to kill a person, though there are hundred other way people were killed, most often driving a car!
- LANGUAGE = *sign between persons*. Language is more than just communication between persons, which can be of rather limited capacity. Language implies complexity of communication, that is potential for “*lot of*” communication, hence the sign “*lot of*” (shown by *doubling* the sign) *communication* stands for *language*.
- LASER = *parallel parallel light*. The word is acronym, an abbreviation constructed from the first letter of: **L**ight **A**mplification by **S**timulated **E**mission of **R**adiation. It was introduced in 1960 by development of device that produces coherent emission of electromagnetic radiation in ultraviolet, visible and infrared parts of spectra of atoms and molecules. To refer to laser as extremely parallel light is almost understatement. Light of laser was sent to the Moon and was reflected back!

LAUGH = *lot of smile*.

LEAD = *soft metal*. Indeed, lead is one of most soft but rather heavy metals with a low melting point (at only 327.5 °C, in contrast to gold which is above 1000 °C and iron, above 1500 °C).

LEUKEMIA = *blood cancer*. Blood is shown as *heart liquid* and cancer as *uncontrolled cell division*.

LIBRETTO = *musical text*. Libretto (from Italian *libro* for *book*) gives text of an opera, is the *text* that accompanies *musical* work.

LIFE = *heart beat*. Life is more than “heart beat,” but recall we are in the process of construction of universal language and not elaborating on life as known to biology. Plants are, for example, alive and have no heart. Chinese used combinations of characters that represent “wet tongue” to stand for life some 4000 years ago, and again plants have no wet or dry tongue. Of course if one’s tongue is dry, one is dead, just as if one’s heart stops beating. Critics may say that Nobel is oriented too much to human perceptions of the world around – and that is true, because it is intended for communication between humans.

LIGHT = *equal crossed heavy*. The sign equals IS added to differentiate the sign of *light* and the sign *easy*, which is simply given as *crossed heavy*.

LIVING = *heart beat beat*. Doubling of the heart signal sign suggest duration, prolong activity.

LOCAL = *not global*. “Not” is shown as *reciprocal*.

LOUD = *above mouth*. The sign suggest *above* normal voice of *mouth*.

LUNCH = *mid day meal*. Mid day is shown as *noon*, and meal is shown as *full plate*.

MAGNET = *metal with a hook*. Metal is shown as *heavy* (weight).

MAP = *picture of globe*. More correctly map is representation usually on paper and on flat surface of the whole, or various parts of the globe. The flag of United Nations depicts one such two-dimensional representation of the whole globe. There are unavoidable inaccuracies in presenting larger parts of the globe as a map, which if more accurate at the equator tend to distort and augment the polar regions. But when considering smaller areas of the globe two-dimensional flat maps are quite accurate. Indeed the same appears true when looking at the Earth around you if traveling short distances. So much so, that some people apparently still believe (or pretend to believe) that the Earth is flat – at least this seems to be the case with some of 3000 members of the “Flat Earth Society” of New York.

MARRIAGE = *overlapping rings* – basic sign.

MASSACRE = *kill, kill*. Massacre can involve half a dozen victims to several hundreds victims and usually refer to killing of helpless and unresisting people, most of the time innocent victims. Massacre has been perpetuated from the Biblical times as illustrated by Herod’s Slaughter of Innocents, when around the time of birth of Christ Herod massacred an estimated 10,000 male children up to the age of two years in Bethlehem and its surrounding, up to more recent activities of various gangs.

MASK = *face & not a face*. Mask covers face for disguise, which can be by displaying a different face or a grotesque figure – in any case *not the face* of the holder.

MEADOW = *grass field*.

- MERCURY = *liquid metal*. It is the only metal which is liquid at room temperature. It is highly toxic and because of that its use, that was widespread in thermometers and barometers, has been stopped.
- METAL = *overlapping heavy*. Metals are heavy, except perhaps for aluminum (and its alloys) the lightest of metal. So the sign for *metal* is shown as *overlapping heavy*.
- MICROSCOPE = *lens above lens*. Lens is depicted as magnifying glass, for better recognition. Microscope is optical instrument consisting of *overlapping lens* that make possible to enlarge images of small objects. The same can also be said of telescope which is used to enlarge distant objects. In order to distinguish the two overlapping lens for the sign of *microscope* are put *one above the other*, and for the sign of telescope *overlapping lens* are put *one next to the other*.
- MIDNIGHT = opposite of noon. *Noon* is the middle *part of day* (time), while the opposite is shown by *reciprocal*.
- MIGRATORY BIRD = *bird over the globe*. Migration is known among animal, fish and birds, come of which cross several thousands of miles. We show migratory birds as flying over the globe, what in fact they are doing, maintaining a high navigational skills, so that they return back to the same place that they left and almost always a the same time as a year before.
- MINUTE = *part of hour = detail of a day*. Hour is shown as part of time, thus minute, being part of hour is also part of part of time. *Part of part* is the sign that represent word "*detail*."
- MOLECULE = *touching atoms*. This would be a fair description of molecules for layman, though more accurate characterization will be to speak of *bonded atoms*, overlapping atoms, but we already use the sign of *overlapping atoms* to stand for *bond*, including chemical bond.
- MONARCHY = *country & crown*. Historically crown and scepter symbolize the authority of a sovereign, which is simplified in Nobel by using only *crown* as a symbol of *authority*.
- MONKEY = *brain and no face*. The sign may be looked as opposite of the sign for *idiot = face and no brain*, and can be related to the sign for *ape = brain and no brain*. Monkeys have brain just as ape, but while face of apes has considerable similarity to the face of humans, this need not be, and often is not the case with monkey. For example, baboons of central Africa, including the biggest of them, mandrill, looks more like dogs than like apes. Thus Nobel adopted sign: brain and no face for monkeys, despite than some monkeys have pretty faces.
- MORNING = *part of time* (of a day). *Morning, noon, afternoon* and *evening* are all shown as *part of a time* (of a day) and are differentiated by placing the sign "*part*" approximately at the appropriate part of the watch.
- MUFFLER = *kills noise*. "*Killing*" is suggested by *knife*. *Noise* is *opposite to music* (shown as musical note). *Opposite* is indicated by using *reciprocal*.
- NATIONAL = *between a state* meaning in fact *within* a state.
- NOISE = *opposite to music*. *Music* is represented by *musical note*. *Opposite* is indicated by using *reciprocal*.
- NOON = *part of the day* (around 12 o'clock).
- NORTH = *north direction of globe*.
- ORCHARD = *fruit field*.

ORGAN = *part of a body*.

OVERKILL = *kill killed*. Merriam Webster's Collegiate Dictionary (10th edition) list the following three meanings to the overkill: (1) a destructive capacity greatly exceeding that required for a given target; (2) an excess of something (as a quantity or an action) beyond what is required or suitable for a particular purpose; and (3) killing in excess of what is intended or required. The sign depicting *two knives in heart* covers *the first two meanings of overkill*. The third meaning of overkill is listed below.

OVERKILL = *kill over kill*. Killing in excess of what is necessary.

PAPERBACK = *book & soft sign*. Soft (*crossed hard*) suggest soft or paperback covers of a book, just as *book & hard* suggest books with hard covers.

PARROT = *bird & mouth*, which suggest *speaking bird*.

PENGUIN = *bird of Antarctic*. Penguins are the only birds of Antarctic, even though, due to a cold stream from Antarctic along the coast of Chile penguins also live at Galápagos Islands.

PHEASANT = *bird of fields*. As mentioned contender for the same "title" would be partridge, but pheasants are more abundant.

PIPE = *part of pipe & vent*.

PLANTATION = *lot of field*. The sign for *field* is the same as depicted in Chinese characters and it is supposed to represent rice fields. Nobel has adopted this sign also to acknowledge the early lead in construction of universal writing initiated by Chinese.

POLYMER = *touching molecules*. Long chain consisting of repeating molecules

PRINCIPALITY = *country of prince*. Prince is not king, hence the sign for *prince* in Nobel is shown as opposite (*reciprocal*) of *king*. Principality used to be more numerous in middle ages, but few survived. One best know is Monaco, which will survive as long as ruling Prince has son as follower, which current Prince Rainer succeeded (with a help of American actor Grace Kelly, whom he married).

PROLOGUE = *detail at the beginning part of a book*.

PROTEIN = *molecule of living*. All living creatures down from viruses (that can crystallize) and bacteria (that can live indefinitely as long as food is available) to plants, animals and humans are built from proteins. Proteins are complex lengthy folded chains of 20 basic smaller molecules, known as amino acids, as it building block units. Observe the similarity and relationship between the sign for DNA, as molecule of life, which is responsible for hereditary properties of living matter, and protein as molecule of living.

QUALITY = *ratio of signal to noise*, as is quality in transmission of signals defined.

QUANTITY = *lot of signal*. If one has a *quantity* of something, then there is *lot of* something. Here the sign for "signal" is used to represent "something" or anything

QUARREL = *battle between mouth*, which is what is verbal conflict between antagonists.

RECIPE = *food & text*. *Recipe* is *text* that describes how to prepare *food*. Later we will see the sign for *menu* as a *list of food*.

REGION = *part of a country*. Region is usually a large *part of a country*, area sometimes without strict boundaries characterized by some specific features, and sometimes by local self-government.

- REPRISAL = *injury against injury*. This sign follows the traditional “eye for eye” mentality.
- REPUBLIC = *kingdom and not*. In many countries there is little difference between the periods when they have been a kingdom and when they became a republic, because the persons in power continued to keep all the power they could. The only formal apparent distinction between kingdom and republic is lack of dynasty, but even this is sometimes doubtful. So when any republic is under dictator it is better if dictator has no blood successors! In short some *republics* are like *kingdom* even if it is *not a kingdom*. And even when this is not the case many Presidents are treated as Kings, if not better.
- RESIDENCE = *house of living*.
- RHOMBUS = *geometry: diamond shape*. Geometrical object in Nobel are indicated by sign of *compass*. *Rhombus* is shown as *diamond* shaped, although they are more general geometrical objects defined by having all four sides equal, but internal angles can be very different.
- RIM = *outside part of a wheel*.
- ROMANCE = *love book*. *Romance* as a love story is shown as a *book*, with sign of *heart* that suggests love narrative.
- ROOM = *part of a house*.
- RUIN = *knife into house*. This sign may appear childish, because knife can do but little damage to a house. In fact the situation is just opposite: if you “attack” a house with a knife it is the knife that is to be ruined and not the house. Most ruins are the result of burning, destruction or “eating” of them by weather, which cause buildings to collapse. But how to arrive at a *simple sign* to stand for ruins? Well, if we focus attention on *damage*, than recall that *damage* has been shown as *knife in suitcase*, so by analogy knife in house is extended to stand for *damage to a house*, and damage to house will eventually ruin the house. One may have notice by now that *knife* in Nobel as well as in real life can be a tool of destruction, and in that connotation “knife into house” can be interpreted as “destruction of house” which is the spirit of the “childish” sign.
- SABOTAGE = *knife into factory*. Perhaps another “childish” sign, but it fits the analogy with the sign for ruin.
- SCAR = *path of injury*. Many *injuries*, particularly cuts, will leave their *path* on a body.
- SEED = *into field*.
- SENTENCE = *part of text*. Text is simply speaking a collection of sentences.
- SERIOUS = *not smiling*.
- SINGLE = *not married*. “Not” is shown by crossing to differentiate single from celibacy (not marriage), which is shown as *reciprocal* to marriage.
- SLICE = *thin cut*. The sign for *thin* in Nobel is shown by placing the signs *above* and *below* very close. Consider, for example, a sheet of paper, which is thin, and the above part of which is very close to the below part of it – which explains the root of the sign.
- SHOUT = *loud loud*. The sign for *loud* in Nobel is *above mouth*, which suggest *above* normal voice of *mouth*. The sign for *shout* is *loud loud*, implying *above above* normal voice of *mouth*.

- SIGNATURE = *path of a signal*. Signature is a trace (*or a path*) one leaves behind when writing one's own name, and *signal* is something that passes a message – what in fact *signature* does, passing the message of authenticity of the person who signs a document.
- SILVER = *heavy & crown*. Object made of sterling silver, (925 parts of silver and 75 parts of copper) are all marked with sign a sign of authenticity so that they could be differentiated from silver-plated objects, which contain silver only on their surface. In Nobel the sign of a *crown* inscribed on *heavy* symbolizes the official mark of authenticity of silver.
- SILVER COIN = *silver and money*. By combining the sign for *money* and sign for *silver* we obtain a sign for *silver coin*.
- SIMILAR = *equal and not*. *Similar* object are almost *equal*, but *are not*.
- SING = *mouth and note*. The sign of musical *note* suggest *mouth* is *singing*.
- SOIL = *top ground*. *Soil*, which is the upper level of earth, which may be dig or plowed and used for growing plants, is the *top* part of the *ground*.
- SOLEMN = *not laughing*. *Solemn* may stand for dignified and ceremonial event but it also stands for highly serious occasions – definitely occasion for *no laugh*. Compare this sign with the sign for *serious*, which is given as *not smiling*.
- SOUTH = *south direction of globe*.
- SPELL = *speak letters*. This exercise appears rather unique to English (and American) language. Was the lack of writing rules deliberately introduced in medieval England, to keep the privilege of literacy to few, or was it due to lack of education widespread in medieval times – is a matter of speculation. That even today educated people may have problems is witness by the fact that a former US vice-president could not spell the word potatoes – which in a way need not be surprising, as he has not been likely to eat them. President Andrew Jackson (1829-1837) was known to misspell the same word differently on a single page!
- SPHERE = *geometry: globe*. *Geometrical* object in Nobel are indicated by sign of *compass*. In order to distinguish sphere from circle, which is shown in Nobel as *compass* and *circle* the sign for sphere is shown as *geometry and globe*, in view that globe has an approximate shape of a *sphere*.
- SPIKE = *part of signal*. Here we took the advantage of the *shape* of the signal sign, which has sharp extremities, but which otherwise has nothing in common with spike.
- SQUARE = *geometry: square*. *Geometrical* object in Nobel are indicated by sign of *compass*.
- STAMP = *part of a letter*. Steps are as a rule set at the upper right corner of envelopes, so is the sign "*part*" placed in the upper right de of *envelope*.
- SUBCONTINENT = *part of a continent*. The sign for *continent* is shown as *the globe and not globe*.
- SUBTOTAL = *part of total*. *Total* is show as *sum of sum*.
- SUPPER = *evening meal*. *Evening* is *part of time*, and *meal* is *full plate*.
- TABULA RASA = *empty empty brain*. *Tabula rasa* is Latin for "blank slate" and was used by John Locke (1632-1704), an influential British philosopher, who held the view that all ideas one has come from one's experience and *none is innate* to a person. Politically he held the view that authority of those who govern comes

solely from the consent of those governed, which is the essence of democracy. The wording of the US Constitution has been apparently strongly influenced by his views on how to govern.

TACIT = *spoken but not*. Tacit, which means implied but not spoken is shown as spoken but not spoken.

TELESCOPE = *overlapping lens*. Lenses are depicted as magnifying glass, for better recognition. Telescope is optical instrument consisting of *overlapping lens* that make possible to enlarge distant objects. The same can be said of microscope, which is used to enlarge images of small objects. In order to distinguish the signs for telescope and microscope overlapping lens for telescope are put *one next to the other*, while the overlapping lens of *microscope* are put *one above the other*.

TERRITORY = *ground & country*. Etymology of the word comes from French *terra* for *land*, and *territory* represent geographical area under jurisdiction of a government. Land is in Nobel represented as *ground*, thus the origin of the sign.

THESAURUS = *word parallel word*. In contrast to *dictionaries* which list word *against* word (usually words of different languages) in thesaurus word of similar or *parallel* meaning are collected together.

THICK = not thin. Not is shown by crossing. This is shown as *above* close to *below*.

THIN = *above* close to *below*. Consider, for example, a sheet of paper, which is thin, or any other thin object. For all them the above part is very close to the below part – which explains the sign.

THORN = *part of a hook*. Thorn is a sharp pointed part of a plant, which is shown in Nobel as a part of a hook, even though, except for hooks used in fishing, hooks need not have so sharp and split tops.

TIGER = *big cat*. Cat is in Nobel shown as opposite (*reciprocal*) to dog, hence use of *teeth*. *Big cat* is shown represented by *doubling* the sign of teeth.

TIRE = *soft rim*. *Soft* is shown as *crossed hard* (diamond) and *rim* is shown as *part of a wheel*.

TISSUE = *part of an organ = detail of body*. Organ is represented in Nobel as part of a body, so tissue, which is part of *an organ*, becomes part of a part of a body.

TOOTH = *part of teeth*.

TOP = top *part of mountain*.

TORCH = *fire above*. *Above* is shown as *semicircle open up*, like a tray or plate that one can carry around, thus tacitly implying that torch (*fire*) can be carried, but it can also be stationary.

TREASON = *knife into country*. This sign is illustration of another destructive use of knife!

TRIANGLE = *geometry: triangle*. Geometrical object in Nobel are indicated by sign of compass.

TROPIC = *part of equatorial part of the globe*.

TWIG = *part of a branch = detail of a tree*. Branch is in Nobel shown as *part of a tree*, so twig is *part of a part* or a *detail of a tree*.

UTOPIA = *dream country*. Named after a book “Utopia” of Sir Thomas More (1478 – 1535) English Renaissance humanist and statesman. He was writing about an ideal peaceful state that would be based on perfect society. Nowadays *utopia* stands for an imaginary and remote place or impractical schemes for improvement

of social organization. Because More objected that King of England be the head of the Church he was beheaded.

VANDALISM = *knife in a picture*. Vandalism is deliberate destruction of property, and in particular work of art. This is why we selected the sign *knife into picture* to represent vandalism. In fact, in 1956 that on two occasions two deranged persons attacked Leonardo da Vinci's masterpiece Mona Lisa in Musée du Louvre in Paris, first throwing acid on the picture and the second a stone, which "hurt" the elbow of Mona Lisa.

VENT = *part of pipe and vent*.

WEST = *west direction of globe*.

WHISPER = *below mouth*. The sign suggest *below* normal voice of *mouth*.

WING = *part of bird*

VIS-À-VIS = *face against face*. *Against* is shown as *perpendicular*.

WORD = *part of sentence = detail of text*. *Sentence* is shown in Novel as *part of text*, and *word* being part of sentence becomes *part of part* or *detail of text*.

WORDWIDE = *globe-wide*. *Wide* is crossed *narrow*.

W = 800

Our word count stands at about 800, to be exact 815, which included nine countries (Australia, Austria, Austro-Hungary, Ecuador, England, Hungary, Northern Ireland and Wales). This after starting with 60 basic signs by using their combinations we added another 100 words. By adding "overlap" of signs and an operation we arrived at 200 words. Continuing by using combinations of overlap signs, doubling, crossing inversion, reciprocal and fractions we more than doubled the number of word reaching total of over 400 words. Adding to the initial set of 60 basic signs 20 conventional signs, of which half are standard mathematical, including plus and equal signs, know to even illiterate people, we arrived at new total of some 550 words.

Additional 60 basic signs allowed further increase in signs of Nobel. Wit help of these additional basic signs we constructed additional 275 words (half of what we already have) climbing to just above 800 words. This is the number of words that C. K. Ogden considered sufficient to express any text written English language in simplified "Basic English." Of course, we cannot claim such a feat, because we collected words not for their importance, but convenience. The reason for this is to outline the basic methodology and the spirit of Nobel graphical language. But we ought to point out that we are at the beginning of our "climb" on the "Mount Nobel," and we hope that we have not lost many climbers, as the slopes that we climb do not seem pt be too steep. Let me try to assure you, that even tough we may have passed a visible fraction of the path, perhaps 1/4, the rest of the journey will be of similar nature, and will not require strenuous effort on those willing to continue.

