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A Propensity for Genius: That Something Special About Fritz Zwicky (1898 - 1974)

by John Charles Mannone

Preface

It is difficult to write just a few words about a man who was so great. It is even more difficult to try to capture the nuances of his character, including his propensity for genius as well as his eccentric behavior edging the abrasive as much as the funny, the scope of his contributions, the size of his heart, and the impact on society that the distinguished physicist, Fritz Zwicky (1898- 1974), has made. So I am not going to try to serve that injustice, rather I will construct a collage, which are cameos of his life and accomplishments. In this way, you, the reader, will hopefully be left with a sense of his greatness and a desire to learn more about him.

In order to accomplish this in a fresh way, I feel compelled to depart from a traditional purely biographical accounting and the sterile litany of dates and their associated facts. There are numerous records that admirably follow this approach and provide the essential highlights of his life and career. Though a certain measure of this kind of information is inevitable and unavoidable, there is a benefit from the inclusion of a biographical summary. It will serve as a template for touching on the numerous aspects of his life. In the subsequent exposition, one will find the accounting punctuated with interviews and anecdotes, elaborated with science, and bound with poetry.

In the attempt to show you something about the man, Fritz Zwicky, I may raise more questions than I can answer. Perhaps a protracted examination of the exhaustive collection of the historical records on the man and his accomplishments may provide the answers to some of these, but I am forced to leave many as unanswered speculations.

Of course, I introduce a bias in this essay, which is that of a scientist. I apologize in advance for any shortcoming in the presentation of historical and genealogical information that this journal traditionally covers, which may be conspicuously absent to the more seasoned eye. Its omission or scant presentation is more reflective of the limited accessibility of the information, rather than my ignorance. However, I am sure there is a certain measure of that, too.

The inclusion of scientific explanation is necessary, not to impress the reader with lectures on physics, but rather to expose the brilliance of Fritz Zwicky. To merely state that he was a genius, which simply reduces his

intelligence to a cliché, is to deny him full credit for the extent of his genius. Therefore, some scientific discussion is demanded.

Finally, it was my hope to find a Swiss poet who could express the awesome wonder of the universe and capture thematically the collective contributions of Fritz Zwicky. Poet/Astronomers are not a commodity in either scientific or literary circles. Remarkably, a Swiss contemporary of Fritz Zwicky, Maurice du Martheray, was both an astronomer and a poet. Unfortunately, after scavenging the literature I found only dearth. However, since my passion for physics has enveloped literary expression, their fusion enables me to enjoy astronomy and poetry in a new way. Therefore, I hope one finds that my poetry embraces the beauty of the universe Fritz Zwicky fervently tried to understand and, regardless how subtle, stands as a compliment to his genius.

Biographical Summary

There are many biographical sources[1] on Fritz Zwicky. One entry reads, "ZWICKY, FRITZ (b. Varna, Bulgaria, 1898; d. Pasadena, Calif., 1974), astrophysicist. Graduated Eidgenossische Technische Hochschule in Zurich, Switzerland (B.S., 1920; Ph.D., 1922). In 1925 he received a fellowship to work with scientists at the California Institute of Technology (Caltech),

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[1]Roland Müller, *Kurze Biographie: Fritz Zwicky* (German) (accessed November 2, 2005, http://www.muellerscience.com/NavStartenglish.htm. Found under "specialties"). This is a 123-page excerpt from a lengthier 700-page book. A biographical timeline is on pages 121-122. Also, Roland Müller, *Switzerland: Short History - Some Peculiarities - Some Personalities With Special Consideration of Central Switzerland*, Müller Science, 2001-2005.

Cecilia Payne-Gaposchkin. " A Special Kind of Astronomer." *Sky and Telescope* 47 (1974): 311-13.

Stephan M. Maurer. "Idea Man." *Astronomical Society of the Pacific* and *Beam Line* 31/1 (*Beam Line* is published periodically by the Stanford Linear Accelerator Center (SLAC)).

Fonte, *Fritz Zwicky* (also courtesy of www.dynamical-systems.org).

Fritz Zwicky in Lexika und Nachschlagewerken (Encyclopedias and reference Books) (1974-2002) (http://www.zwicky-stiftung.ch/Lexika.htm).

Fritz Zwicky, *Wikipedia* On-line Encyclopedia.

Fritz Zwicky, *The Columbia Electronic Encyclopedia,* 6th ed., 2005, Columbia University Press.

"Fritz Zwicky." (Obituary by Albert Wilson). *Quarterly Journal of the Royal Astronomical Society* 16 (1975): 106-108.

where he was appointed assistant professor of theoretical physics in 1927 and professor of astronomy in 1942, having changed his field of study to astrophysics in 1933. He also became director of research for the Aerojet Engineering Corporation (1943-49), pioneering the development of several different types of jet and propulsion engines. Among his many scientific and technological achievements are his theories concerning neutron stars; his supervision of an international search effort for supernovas; his initiation of a sky survey at the Mt. Palomar and Mt. Wilson observatories, which resulted in the creation of the most comprehensive set of galactic catalogs; and his work in the areas of jet propulsion and rocketry." (*Concise Dictionary of American Biography*, Fifth Edition, Vol. 2, 1997).

Genealogy

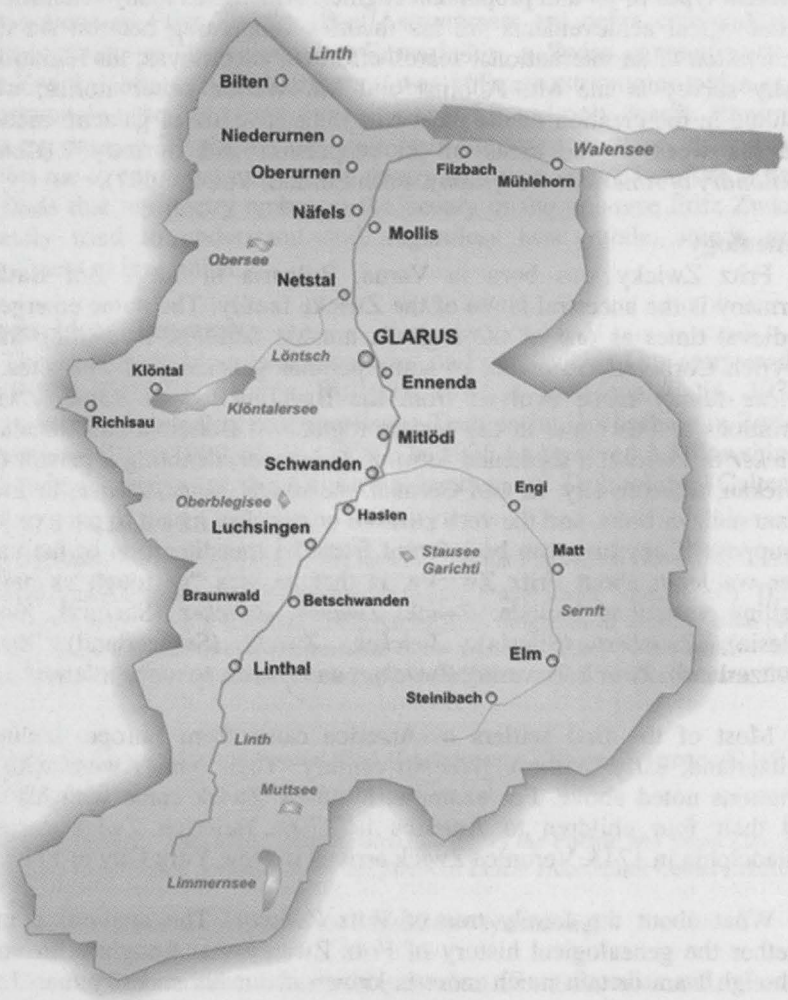
Fritz Zwicky was born in Varna, Bulgaria in 1898. But Bavaria, Germany is the ancestral home of the Zwicke family. The name emerged in medieval times as one of the region's notable families. According to the Swyrich Corporation[2], owner of some popular genealogical web sites, the *Zwicke* family name evolved from the Bavarian town's name, Zwickl. Variations of this name in the eastern regions of Bohemia and Silesia are *Zwicker* or *Zwicke*, a shortened form of *Zwickauer*, denoting a person from Zwickau, a Saxon city. In Old German, the words *Zwick*, *Zwack*, or *Zweck* meant nails or bolts, and the verb *zwicken* or *zwacken* meant to pack or load. (I suppose if anything can be inferred from the transliteration of the name, after we learn about Fritz Zwicky, is that he was "as tough as nails"). Spelling variations include: *Zwick*, *Zwickel*, *Zwicker* (Saxony), *Zwicke* (Silesia), *Zwickert* (Silesia), *Zwicken*, *Zwicki* (Switzerland), *Zwicky* (Switzerland), *Zwack* (Bavaria), *Zwacker*, and *Zweck*, to name a few.

Most of the first settlers in America came from Europe, including Switzerland, early in the eighteenth century. Their names were with the variations noted above. For example, Matthew Zwick came with his wife and their four children to America in 1709. Heinrich Zwick came to Philadelphia in 1743. Veronica Zwick arrived in New York City in 1710.

What about the family tree of Fritz Zwicky? The attempt to piece together the genealogical history of Fritz Zwicky was fraught with voids. Although I am certain much more is known about his ancestry than I will report here, very little of this information is readily available from standard sources. What I was able to learn will help infer some generalities.

[2] A considerably lengthier 1800-word accounting of the history of the Zwicke name and the Zwicke Coat of Arms is available from Swyrich Corporation at http://www.houseofnames.com/xq/asp/sid.0/qx/zwicke-coat-of-arms.htm.

Fritz Zwicky was the son of a Swiss merchant, Fridolin Zwicky (1868-1944) and a Czech national, Franziska Wrcek (1871-1927). Fridolin Zwicky was born in Mollis, Glarus[3].



Canton Glarus- "Lay of the Land"
Key locations in the canton Zwicky had lived in as a young boy and would visit many times throughout his lifetime (Image courtesy of Wikipedia- the Free Encyclopedia, loc. Cit.).

[3] Dictionary of American Biography, Supplement Nine 1971-1975, 1994, Tammy Ann Syrek; and other biographical sources cited in footnote 1.

An on-line genealogy search[4] on the name of Fritz's father, "Fridolin Zwicky", produces several family lines. The one listed below shows a particular Fridolin who was also born in Mollis, but an uncertainty prevails since the one of interest was born in 1868, and not in 1859. However, clear relationship is implied.

This line (superscripts refer to the generation) is Fridolin[11th] Zwicky (Kaspar[10th], Fridolin[9th], Kaspar[8th], Fridolin[7th], Kaspar[6th], Fridolin[5th], Fridolin[4th], Fridolin[3rd], Kaspar[2nd], Fridolin[1st]), born 1859 in Mollis, Canton[5] Glarus, Switzerland. The first generation Fridolin[1st] Zwicky was born about 1500 in Mollis and died there in 1581. He married Elisabeth Schindler around 1539 in Mollis, Switzerland, where she was born (1505) and died. They had five children; all were born, lived and died in the same place as their parents.

Children of the 11th generation of Fridolin Zwicky were Elsy[12th], Fritz, Hans, Gertrud, and Heinrich Zwicky. It should be apparent that Fridolin and Fritz are common names.

Since Fritz had only one brother and one sister (see below), the above mentioned Fridolin could not be his father. However, I suspect this particular Fridolin is someone close in Fritz's family tree, perhaps his uncle or grandfather. Fritz Zwicky attests to the complexity of his genealogy when he tries to clarify his nationality to the Time Magazine. He tells them that the church registries show many thousands with the Zwicky name who had lived and died in Mollis, Switzerland over the last 600 years[6]. This places his ancestry in the middle of the 14th century. (Undoubtedly this is something that Fritz was quite proud of. In 1954, Fritz visited his ancestral hometown of Mollis, Switzerland and spoke kindly about the charitable organizations in the USA and strongly against communism, impressing local politicians, but also making Glarnerland[7] proud with his discoveries of supernovae. To honor Fritz, the wife of his late brother, Rudolf, sent him a wall carpet with the family coat of arms[8]).

Fritz's father, Fridolin, was only 20 years old when he left home in Mollis, Glarus, Switzerland. He traveled to Varna in Bulgaria. There he met the 26-year old Tschechin girl, Franziska Wrcek, and married her on April

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[4] A preliminary genealogy report was obtained from the Family Tree Maker's Genealogy Site for Fridolin Zwicky descendants (accessed November 2, 2005, http://familytreemaker.genealogy.com/users/m/i/k/Phil-M-Mikkelson/GENE13-0012.html). Of the several family lines, the one in Item 26 is probably the correct one.

[5] *Cantons* are divisions in Switzerland analogous to states in the United States of America.

[6] Müller, *loc. cit.*, page 40.

[7] Glarnerland, is a narrow, steep-sided valley in south-eastern Switzerland situated half way between Zurich and the Grisons region.

[8] Müller, *loc. cit.*, page 81.

22, 1897. She was the daughter of Josef Wrcek and Maria Wrcek-Stefanik from Nechanic in the district Koenigsgraetz (Boehmen). In the following year, Fritz Zwicky was born (February 14, 1898). Shortly afterwards, his brother, Rudolf, and his sister, Leonie, were born. In his own words, Fritz asserts that his father's genealogy stems from an old Swiss family. Fridolin had immigrated to Turkey and established himself as a buyer and small manufacturer in Varna, Bulgaria, then still a city of the Turkish Ottoman Empire. His father, Fridolin, had much financial savvy; he also served as an auditor for several large European banks. Indeed, Fridolin Zwicky was so highly esteemed throughout Europe that six different European governments asked him to represent them in Bulgaria. He first served as Norwegian consul in Varna; during the First World War he represented the Allies (England, France, Italy, Russia); then, after the war, after the Central Powers had been expelled from Bulgaria, he continued to serve as the German and Austrian consul as well for many decades. Fritz respectfully writes about him[9], "he was a man of business authority and circumspection, who one could trust under all circumstances."

When he was six, Fritz was sent to live with his grandparents in Switzerland, allegedly for a better education, but I suspect the political unrest within the Balkans, and perhaps a frail condition of his mother, prompted them to send Fritz where he would be safer. Perhaps the grandparents had been asking for a return to home. I can only speculate.

However, it is clear that Fritz was lonely without his siblings and parents in Glarus. In his letters to his father, I sense a real melancholy mixed with the excitement of a new adventure. Here is an attempt to translate a portion of Rolland Müller's biographical work with the use of on-line language tools and some linguistic interpolation (the full quote in German appears in the footnote)[10]:

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[9] Müller, *loc. cit.*, page 5.

[10] Müller, *loc. cit.*, page 4.

DIE GROSSE, SCHÖNE WELT LAG ... VOR MIR

Es war 1910. Der Orientexpress Zürich, Wien, Budapest, Belgrad, Sofia, Konstantinopel rollte durch den Arlbergtunnel und dann in der Abenddämmerung durch das dunkel bewaldete Inntal. Es war Frühsommer, und der letzte Schnee auf den Tiroler Gipfeln leuchtete hell im Abendrot der untergehenden Sonne, bevor die tiefen Schatten des Tals auch zu ihm emporstiegen. Ich war zwölf Jahre alt und auf dem Weg nach Varna am schwarzen Meer zu einem Ferienbesuch bei meinen Eltern. Mein Vater, aus einer der alten Schweizer Familien stammend, war früh als Geschäftsmann nach der Türkei ausgewandert und hatte sich schliesslich in Varna niedergelassen, wo er auch jahrzehntelang norwegischer Konsul war. Mich hatte man zwecks besserer Schulung zu den Grosseltern in die Schweiz geschickt, wo freundliche Menschen und grossartige Berge mir einigermassen die Abwesenheit vom Elternhaus ersetzten. In der Schule hatte ich immer die besten Noten, ohne mich im geringsten anzustrengen; mit meinen Mitschülern stand ich trotzdem auf dem besten Fuss. Und als ich mit allem

"A GREAT, BEAUTIFUL WORLD LAY... BEFORE ME"

"It was 1910. The Orient Express for Zurich, Vienna, Budapest, Belgrade, Sofia, and Constantinople rolled through the Arlberg tunnel, and then by dusk, was in the midst of the darkly wooded Inn Valley. It was early summer, and the last snow on the Tyrolean summits shone brightly in the evening-red of the setting sun, before the deep shade of the valley rose up to them. I was twelve years old and on the way to Varna on the Black Sea to spend the holidays with my parents. My father … in Varna…had sent me to Switzerland to live with my grandparents and to get a better education. There, for me, the friendly people and great mountains, to some extent, replaced the absence of my parents' house…

"Near Vienna, I fell asleep. I dreamed about an unsure future; the great, beautiful world was opening wide with all its marvelous possibilities and discoveries before me. This beautiful world, would be even better under other circumstances…the Balkans War, the beginning of all tragic occurrences, left me in the end alone, as a "boy of the world" leaving on the Orient Express and for many years I looked for ways to come back to this world which was so dear to me."

Nötigen versehen auf dem Arlberg-Orientexpress gegen Wien gleitend einschlief, träumte ich von einer sorgenlosen Zukunft; die grosse, schöne Welt lag ja weit offen und mit allen ihren wunderbaren Möglichkeiten und Offenbarungen vor mir. Diese schöne Welt, die unter solchen Umständen nur immer besser werden konnte, dauerte noch zwei Jahre. Dann kamen der erste und zweite Balkankrieg 1912 und 1913. Was meine Schweizer Kameraden anbetrifft, hätten diese Kriege hinter dem Mond ausgefochten werden können. Auch der Erste Weltkrieg, der Kampf zwischen Griechenland und der Türkei um Anatolien sowie der Zweite Weltkrieg liessen sie wesentlich unberührt. Für unsere Familie aber, Vater Schweizer, Mutter Tschechin, Schwager Bulgare und Schwägerin Österreicherin, bedeutete der Balkankrieg den Anfang aller tragischen Begebenheiten, die mich am Ende allein gelassen haben, als einen, dem die Welt des Knaben auf dem Orientexpress entschwunden ist und der deshalb lange Jahre nach Wegen gesucht hat, die ihm diese Welt wieder nahe bringen könnten.

Alps of Glarus from Zurich Oberland
I can only imagine how the view of mountains in his dreams or a visit to the snow covered landscape at Bachtel (1115 m) in the Zurich Oberland region and its view towards the Linth plain and the Alps of Glarus, could have made Zwicky homesick. (Reproduced by Permission of Switzerland Tourism/ swiss-image.ch. Photograph STW0-451 by Christof Sonderegger).

Zwicky's genealogical legacy continues in the United States.

On Mar. 25, 1932, Zwicky married his first wife, Dorothy Vernon Gates, the daughter of California State Senator Edgar J. Gates. The couple did not have any children, and their marriage ended in divorce in 1941.

On Oct. 15, 1947, Zwicky married his second wife, Anna Margarita Zürcher, the daughter of a Swiss hotelier, who was working as a cashier when they met. The couple had three children.

Fritz Zwicky died at the Huntington Memorial Hospital in Pasadena, California. He was buried in Glarus, Switzerland[11].

Fritz Zwicky died of a heart attack in Pasadena, California on August 1974, just a few days before his 76th birthday. Fritz had already had a heart attack in September 1951 and his brother Rudi (who had married Elfriede) shortly afterwards had died of a heart attack in Zurich in May 1952[12].

An obituary[13] reads, "He leaves, after nearly 50 years at Caltech, many loyal friends, scientists and public figures; his wife since 1947, Anna

[11] Dictionary of American Biography, *loc. cit.*
[12] Müller, *loc. cit.*, pages 77-78.
[13] Greenstein J. & Wilson A. "Remembering Zwicky – Scientific Eagle." *Engineering and Science* 37 (1974): 15-19. (Jesse L. Greenstein is a Lee A. DuBridge Professor of Astrophysics California Institute of Technology).

Margaritha; daughters Margrit and Barbara (of Berne and Pasadena) and a married daughter, Franziska Pfenninger (of Zurich)."

Though ultimately the litany of dates and the sterility of obituaries seem to reduce our mortality to inconsequential dust, they cannot pre-empt the accomplishments of a man.

The Young Years

From the age of six, Fritz grew up with his grandparents in Glarus, Switzerland. A schoolmate in Primarschule (elementary school), Jakob Staehli from Netstal, who was to become a teacher there for 45 years, became a life-long friend of Fritz. He recalls their time during their secondary school years (high school), "Fritz Zwicky towered above us all in intelligence and knowledge, he shone in all subjects. He wrote the best essays…" Jakob continues to explain that Fritz's eloquence and persuasive writing skills encouraged the local officials to make badly needed improvements, such as new bathrooms, in the schools[14]. Fritz attributed to his high school teacher, Strirne, his love of mathematics and physics[15].

Fritz excelled in sports (Kunstturner) as well. Later he became fascinated with skiing and mountain climbing.

The recollections of Staehli[16] testify to Fritz's early leadership skills, sensitivity and compassion. While in secondary school, "Zwicky dominated automatically; that is well-documented…Later becoming almost incredible (Phantast)…If someone did not like him, then he was upset… However we had a good relationship. He was not rebellious, and he showed no disrespect (irreverent mouth) in the school." Another schoolmate, Hans Hefti, validates further, "Fritz Zwicky is the only one who I remember still from this time. He was completely excellent…He helped those who were not as talented as he, e.g. in mathematics, physics, in addition, languages. He was not one who went straight ahead leaving others to lie on the left and on the right, rather he helped everyone who had trouble in any thing. He was a great and excellent friend. He was rather muscular, well built, strong. We always beat the first and second class in the winter in the break (Schneeballschlacht), against the third and fourth class. And he was always someone who another could depend on."

Hans Hefti attaches importance to the fact that in the school Zwicky did not dominate his comrades, but rather quite the opposite. He simply excelled in each subject as well as in sports.

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[14] Müller, *loc. cit.*, page 6.

[15] Müller, *loc. cit.*, page 7.

[16] *Ibid.*

This is an important characteristic in Fritz Zwicky and is noteworthy. He really is a team payer concerned for the success of his fellow classmates. This picture of his character, which I believe genuine, will quickly become distorted in his later years at the Caltech. Unfortunately, there are certain accounts (or hearsay) of his alleged escapades and verbally abusive remarks that paint an arrogant demeanor.

Zwicky entered Industrial School (an upper form of high school specializing in mathematics and physical sciences and engineering) in Zurich for the fall term 1913/1914. He graduated in 1916 after two and a half years of study with considerable honor receiving his leaving-certificate (diploma) in 14 subjects with a score of 82.5 out of a possible 84 points. Such a result, Zwicky says[17], "has not been reached in approximately 150 years from this oldest and strictest middle school in Switzerland."

Zwicky entered the Industrial School with Jakob Ackeret from Glarus, Switzerland and Tadeus Reichstein from Wloclawek, Poland. Both will go on to Eidgenössische Technische Hochschule (ETH) in Zurich along with Zwicky[18]. They will become lifelong friends. Ackeret[19], who graduated as a mechanical engineer, would later become the internationally famous aerodynamicist and rocket scientist coining the words "mach number". Reichstein[20] who graduated as a chemist, became noted for his independently developed method for the manufacture of ascorbic acid (vitamin C). He would win the Nobel Prize in medicine (1950) for his research on adrenal cortex hormones and isolation of cortisone. Reichstein would be the first mountain climbing partner of Zwicky[21].

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[17] Müller, *loc. cit.*, pages 10-11.

[18] Müller, *loc. cit.*, page 10.

[19] ETH library is an on-line virtual exhibition maintained by ETH for various Swiss personalities. Here, Jakob Ackeret (1898-1981) is honored: Pioneer of the aerodynamics (accessed November 17, 2005, http://www.ethbib.ethz.ch/exhibit/ackeret/ackeret_frame.html).

[20] Nobel Lectures, Physiology or Medicine 1942-1962, Elsevier Publishing Company, Amsterdam, 1964. (From the autobiography/biography of Tadeus Reichstein).

[21] Müller, *loc. cit.*, page 10.

Switzerland Topography

This sketch shows the mountainous relief of Switzerland. While studying in Zurich, Zwicky and Reichstein, and later Brunner, would enjoy weekend breaks in the Glarus Mountains. The map shows one of Zwicky's favorite moutains to climb, Bifertenstock. (Image adapted; courtesy of the Perry-Castañeda Map Collection at the University of Texas.

Zwicky studied under Hermann Weyl, the famous mathematician who came from an academic line of brilliant mathematicians. Weyl's close associations with Schrödinger and Einstein will undoubtedly benefit Zwicky.

Higher Education in Zurich- Einstein Connection

The ETH, founded in 1854 by the Swiss Confederation, opened in 1855 as a polytechnic institute (Eidgenössische Polytechnische Schule). In the beginning, it had six departments: architecture, civil engineering,

mechanical engineering, chemistry, forestry, and another department for mathematics, natural sciences, literature, and social and political sciences. The ETH is a federal institute (i.e., under direct administration by the Swiss government), whereas the University of Zürich (founded in 1833) is a cantonal institution. In 1909, the courses were restructured to match a regular university curriculum, and the school was granted the right to award doctorates. In 1911, it was given its current name, Eidgenössische Technische Hochschule[22]. In October 1916, Zwicky entered Department III of this Swiss Federal Technical University. It would soon become well regarded internationally for industrial and technical sciences. Today, ETH is one of the top ten universities in the world. ETH got its good reputation especially in the areas of physics and chemistry. ETH would come to produce fourteen Nobel Prize winners[23], some of whom were Zwicky's classmates, teachers, and professional associates.

In1916, ETH had 1,859 students; Zwicky was among the 700 who entered Department III (mechanical engineering and electro-technology). After three terms ending with the summer semester of 1918, Zwicky switched to Department VIII (mathematics and physics). On July 24, 1920, at the conclusion of his diploma examination, Zwicky obtained the teaching diploma (intermediate of a bachelor's and master's degree). His performance again was remarkable. His central Note (grade) of 5.45 beat the previously held record of 4.91 achieved by Albert Einstein some 20 years earlier[24].

He then began graduate study in theoretical physics, and published his first scholarly work, "The Second Virial Coefficient of the Rare Gases," in 1921. He wrote a doctoral dissertation entitled "On the Theory of Ionic Crystals," and received his Ph. D. in 1922. The interesting thing is that Zwicky did his dissertation under both Peter Debye and Paul Scherrer (who was department head) and it only took two years. Peter Debye was Scherrer's graduate advisor in Göttingen. Debye would eventually win the Nobel Prize and Scherrer would become a co-founder of the world's largest particle physics laboratory called CERN near Geneva.

Zwicky remained at the institute as a research assistant until 1925, when he received a fellowship from the Rockefeller International Education Board to work abroad.

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[22] Wikipedia, the free encyclopedia (retrieved Nov. 2, 2005 http://en.wikipedia.org/wiki/ETH_Zurich).

[23] Müller, *loc. cit.*, page 12.

[24] *Ibid.*

Emerging Philosophies and Genesis of Genius

I imagine Zwicky's philosophical posture started developing at a young age. He reflects in his autobiographical account in his book, *Everyone a Genius*[25], upon his voracious appetite for books, even at the age of fourteen. He muses at having read all the Federal Library. His literary diet was not limited to science, but extended to politics, psychology, and sex[26].

There is an old saying, *Tell me what you eat, and I will tell you what you are*[27]. I would propose a corollary to this— *Tell me what you read (mentally eat), and I will tell you even more of what you are.* In this context, let us briefly examine this sampling of his literary diet. Below is a cameo of the people he studied. The reader can draw his own conclusions from this bit of psychoanalysis, but some of Zwicky's philosophies are clearly seen to have been influenced by these personalities in his formative years:

Lev Nikolayevich, Count Tolstoy (1828 – 1910)[28]: Russian author, Tolstoy wrote *War and Peace* and *Anna Karenina.* Tolstoy's life is often seen to form two distinct parts: first comes the author of great novels, and later a prophet and moral reformer.

Fyodor (Mikhaylovich) Dostoevsky (1821-1881)[29]: Russian novelist, journalist, short-story writer, whose psychological penetration into the human soul profoundly influenced the 20th century novel, ultimately dealing with moral and philosophical questions contrasting views or ideas about freedom of choice, Socialism, atheism, good and evil, happiness and so forth. Dostoevsky's central obsession was God, for whom his characters constantly search through painful errors and humiliations: *But you're a poet, and I'm a simple mortal, and therefore I will say one must look at things from the simplest, most practical point of view... what shall I do if I know for a fact that at the root of all human virtues lies the most intense egoism?* (Prince Valkovsky in *The Insulted and Humiliated*, 1861).

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[25] *Jeder ein Genie*. Bern: Herbert Lang & Cie AG; Frankfurt: Peter Lang GmbH 1971. Nachdruck im Verlag Baeschlin, Glarus, 1992.

[26] Müller, *loc. cit.*, page 9, an extract of his quote,

> *und alle Bücher der Landesbibliothek las, so dass mir Tolstoi, Dostojewski, Nietzsche, Gottfried Keller, Forel (Die Sexuelle Frage), Stoll (Völkerpsychologie), Faraday (Die Tagebücher dieses grossen Physikers) und natürlich der unvermeidliche Karl May (Old Shatterhand, Winnetou) und viele andere geläufig waren. Der enzyklopädische Unrat, den ich so anhäufte und in meinen Aufsätzen zum besten gab, half offenbar auch noch mit, dass dieselben imponierten.*

[27] Anthelme Brillat-Savarin (1755 – 1826), a French gourmet & lawyer in his work *The Physiology of Taste, 1825.*

[28] Credit for biographies, Petri Liukkonen (retrieved Nov. 19, 2005, http://www.kirjasto.sci.fi/).

[29] *Ibid.*

Friedrich Nietzsche (1844-1900)[30]: German philosopher and critic of culture, influenced 20th century German and French writers. Nietzsche's most popular book, *Thus Spoke Zarathustra*, is full of provocative ideas; he was a master of aphoristic form and use of contradictions. After the insanity and death of his father, a Lutheran minister, Nietzsche became a lifelong rebel against Christianity. "In truth, there was only *one* Christian, and he died on the cross," he wrote in *Der Antichrist* (1888).

Gottfried Keller (1819-1890)[31]: The greatest German-Swiss short-story writer and novelist of the late 19th century realistic school. Of his works, *Der grüne Heinrich* (*Green Henry*), a story of a failing artist, has been called by some critics the greatest Swiss novel. Keller was involved in the Swiss civil disputes of the time.

Auguste-Henri Forel (1848-1931)[32]: Swiss neuro-anatomist, psychiatrist, and entomologist. One of the important psychiatrists of the last century, he is primarily known as an ant specialist. His interest in psychology led him to effect innumerable reforms, including important changes in the penal code. He was considered an authority on the treatment of mental disturbances with hypnosis. And, in sexual hygiene, Forel published the important book *La Question Sexuelle*. (*Die Sexuelle Frage,* München, Reinhardt, 1907, 6th-7th edition.). This classic work was published the same year as Sigmund Freud's *Drei Abhandlungen zur Sexualtheorie,* and is one of the first in-depth treatises on sexual hygiene (accessed Nov. 19, 2005, http://www.whonamedit.com/doctor.cfm/1480.html).

Otto Stoll (1849-1922)[33]: Professor of geography and ethnology in Zurich who published psychology of hypnosis and of sexual behavior: *Suggestion und Hypnotismus in der Völkerpsychologie* and *Das GeSchlechtsleben in der Völkerpsychologie*.

Michael Faraday (1791 - 1867)[34]: Received no formal education, but worked with books and was inspired with an interest in science. He discovered

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[30] *Ibid.*

[31] *Ibid.*

[32] *Who named It?* (Accessed Nov. 19, 2005, http://www.whonamedit.com/doctor.cfm/1480.html; source credit Rudolf Kleinert, Bad Reichenhall, Germany.

[33] Alan Gould, *A History of Hypnotism*, Cambridge University Press, Boston. MA, 1992, pages 505-507 and http://www.antiqbook.com/boox/gac/081489.shtml (accessed Nov.19, 2005).

[34] BBC-History: Accessed Nov. 19, 2005, www.bbc.co.uk/history/historic_figures/faraday_michael.shtml). See also the official website: www.rigb.org/rimain/heritage/faradaypage.jsp.

electromagnetic induction, the battery (electropotentials), the electric arc (plasmas) and the Faraday cage (electrostatics). Also, Faraday was deeply religious. He belonged to a small sect called the Sandemanians. They were strict literalists and believed in the fellowship of man. However, he did eventually denounce the spiritualist phenomenon beginning to proliferate in the 1830s, as "it was all hokum" and complained of the gullibility of people.

Karl May (1842-1912)[35]: German author of travel and adventure stories, dealing with desert Arabs or American Indians in the Old West. Among May's best-known characters are *Winnetou*, *Old Shatterhand*. Karl writes, *My father was a man of two souls: One soul of infinite tenderness and one of tyrannical proportions, knowing no limits in his rage, incapable to control himself. He possessed outstanding talents, all of which remained undeveloped on account of our immense poverty. He had never attended any school, but had learnt through his own efforts to read fluently and to write very well. He was naturally handy in all crafts necessary for daily life. Whatever his eyes saw, his hands could reproduce. Though being just a weaver, he was nevertheless capable to tailor his own coats and trousers, and to sole his own boots.* (From *My Life and My Efforts,* translated by Gunther Olesch, 2000).

Zwicky has dealt critically with religion during his whole life[36]. A 1971 diary entry states: "To base the inexplainabilty and the immense wonder of nature upon another miracle, God, is unnecessary and not acceptable for any serious thinker." According to one story, Zwicky once discussed the beginning of the universe with a priest. The priest, quoting Scriptures, stated that the universe had started with "and there is light." Zwicky replied that he would buy this, if instead God had said "and there is electromagnetism"[37].

Zwicky's views on theology were certainly inconsistent with his morphological analysis (see the section, *All the Answers- Morphological Analysis*). He would dismiss possible divine nuances yet not discount absurd outcomes of the analysis[38]. His views were also inconsistent with Einstein's

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[35] Liukkonen, *loc. cit.*

[36] Oliver Knill, *Supernovae, an alpine climb and space travel*, (A contribution to the 100'th birthday of Fritz Zwicky), 14. July 1998 (courtesy of www.dynamical-systems.org). (Original source, Zwicky's work, *Everybody a Genius*)

[37] The Caltech web site, http://www.caltech.edu/, has produced nearly 700 hits when searched on *Zwicky*; I combed through the first 100.

[38] As an illustration, consider all combinations in the following matrix:

sun	moon	earth
bullet	rocket	bomb
solar system	space travel	outer space

position[39]: "Science without religion is lame, religion without science is blind." Max Jammer echoes Einstein in the study of his religiosity[40]. Einstein clearly embraced the concept that science and religion are not irreconcilable antagonists. He regarded science and religion as complementary and mutually depending on each other[41]. Mannone concurs in the necessarily mutual non-exclusivity of science and the Scriptures, ironically invoking Einstein's theory of General Relativity to possibly resolve a key biblical paradox[42].

Of course, Zwicky disagreed with Einstein on other points as well, especially on the gravitational red shift. Zwicky preferred a "tired light" notion (gravitational drag slowing down light) to explain the red shift Hubble saw in the expanding universe[43]. Unlike the rest of the scientific community, he never tired of the concept, vehemently disagreeing with Einstein and Hubble.

Immigration to US and the Mountains of Cal Tech

When Zwicky had the opportunity to study in America, he only requested to go where there were mountains like those of his beloved homeland in Glarus. Robert A. Millikan and Paul Epstein at the Caltech brought Zwicky to do solid state physics and in particular to work on the quantum mechanics of atoms and especially metals.

"Trying all combinations leads to crazy ideas like for example a new kind of space travel, where the sun is used as a rocket or the idea to shoot onto the moon or the idea to build shoot through the earth for travel reasons. These three ideas actually have been proposed by Zwicky". (Knill, *loc. sit.*, pages 29-30).

[39] A. Einstein, "Science and Religion." Address at the Conference on Science, Philosophy, and Religion, New York, 1940; reprinted in *A. Einstein, Ideas and Opinions* (Crown, New York, 1954, 1982), pp. 44–49. Quotation on p. 46.

[40] Max Jammer: *Einstein and Religion*, Princeton University Press, NJ, 1999.

[41] There are some later quotations that raise some questions about his actual position on God and therefore what is precisely meant by religion e.g., see http://en.wikipedia.org/wiki/Albert_Einstein). The context and the dates must be closely examined to resolve any questions.

[42] "The Inspirational and Stellar Poetry of John Mannone." In *The* Reflector, ed. Kent Marts. Astronomy League, Phoenix, AZ, March 2005, pp. 12-14.

[43] Müller, *loc. cit.*, page 24. Edwin Hubble observed the spectra of distant galaxies through the 100-inch telescope at Mount Wilson Observatory near Pasadena, CA around 1929 and deduced, together with Milton Humason, that galaxies were receding because the light was Doppler shifted to the red (analogous to the sound of a train whistle becoming lower-pitched as it speeds away from an observer). (See Wikipedia, the free encyclopedia).

Modern View of Other Glarus Mountains from Braunwald Ski Area/Gondola-lift from Huettenberg to Grotzenbuel, 1561 m

Before Zwicky came to the United States, he had expressed interest in living near mountains. He loved to climb them and to ski them. Zwicky was interested in skiing while it was still a globally developing sport. Though mountaineering skiing was formalized by the Norwegians and downhill skiing by the British, the first major skiing competition down Plaine Morte Glacier was held in Montana, Switzerland (1911). The Kandahar Challenge Cup is still run, but at Mürren, Switzerland. The Germans invented the first drag-lift (early 1900s), the French invented the cable car (Chamonix, 1927), but the Swiss constructed the first cable car dedicated to the ski trade (Engelberg, 1928). The Swiss did invent overhead cable lift (Davos, 1934). But the most important transport design, the chairlift is American (Sun Valley, 1936). The simple rope tow run by a motorcycle engine (Zurich, 1932) and the cog railway that rose 3000 vertical feet above Parsenn (1933, Davos) are both Swiss inventions. Austrians followed with a Galzig cable car (St. Anton, 1938). The most recent major advance is the fast, high-capacity detachable chairlift (the earliest ones in: Snow Summit, California, 1952 and Wengen, Switzerland, 1955; the first modern one was the Dopplemeyer at Breckenridge, Colorado, 1981). (SKIING HERITAGE: A Ski History Quarterly (Winter 1996) Volume 8, Number 1, A Short History of Alpine Skiing). It is interesting to note that even though most of Zwicky's 50 patents were in aerospace and rocketry and none in skiing, his mountain climbing partner, Tadeus Reichstein did invent the short ski for mountaineering skiing (Mueller, loc. cit., page 13). Zwicky and Reichstein used then on some of the main peaks of the Tödi range of the Swiss Alps- Claridenstock (3268 m) and Bifertenstock (3421 m) in the mid 1920s. (Reproduced by Permission of Switzerland Tourism/ swiss-image.ch. Photograph STW0459 by Christof Sonderegger).

The Caltech Years: Professor of Physics

In 1926, Zwicky continued the work he had started in Zurich with Debye on the theory of specific heats in solutions as well as osmotic pressure in strong electrolytes. He also studied the interaction and transfer of energy of slow electrons and noble gases using the quantum theory of Heisenberg, Born, and Jordan. He collaborated with Max Fount, who returned to Zurich, until 1931, when he felt all the major questions of quantum physics had been answered. However, in 1927, Zwicky's tenure was uncertain, and he thought he would be returning to Switzerland, where he had preferred to go back to anyway. Zwicky did finally receive a good offer in the canton Zurich in 1928 as chair in theoretical physics at the University of Zurich previously held by Schroedinger (1921-27), Laue (1912-14), Debye (1911-12) and Einstein (1909-11). But since Zwicky had just been appointed assistant professor of theoretical physics at Caltech in 1927, the chair in Zurich was given to Enrico Fermi. This would dishearten Zwicky. He became associate professor two years later and finally transitioned to a new frontier, astrophysics, in 1933[44].

Time Line for Collateral Physics

A discussion of the scientific atmosphere of the times will appropriately couch Zwicky's discoveries and contributions. Furthermore, the historical context[45] will show his keen insight and boldness, both coming from the infectious nature of genius; that is, his own developing genius and the genius around him.

Zwicky was born in a time when physics was undergoing its own revolution with a dramatic departure from the classical physics of Newton and others. The nature of the atom was hardly understood. In the same year Zwicky was born, J. J. Thompson discovered the electron (1898). These small negatively charged particles comprise the outer portions of the atom. Robert A. Millikan (Nobel Prize in Physics 1923), measured the ratio of the charge to mass of the electron (1910). (Millikan brought Zwicky to Caltech in 1925 with the expectation of his contributions in theoretical physics on the quantum mechanics of atoms and metals). Ernest Rutherford's experiments showed a concentration of nuclear matter (Nobel Prize in Chemistry 1908). Later he showed it to be made of positively charged particles he called protons (1914). But the elusive neutron came much later with Chadwick's discovery (1932) in the same already famous laboratory (Cavendish, England).

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[44] Müller, *loc. cit.*, pages 15-20.

[45] Primary references are (1) Wikipedia- the Free Encyclopedia and (2) *A History of Quantum Mechanics*, J. J. O'Connor and E. F. Robertson (last accessed Nov. 8, 2005, http://www-history.mcs.st-andrews.ac.uk/HistTopics/The_Quantum_age_begins.html).

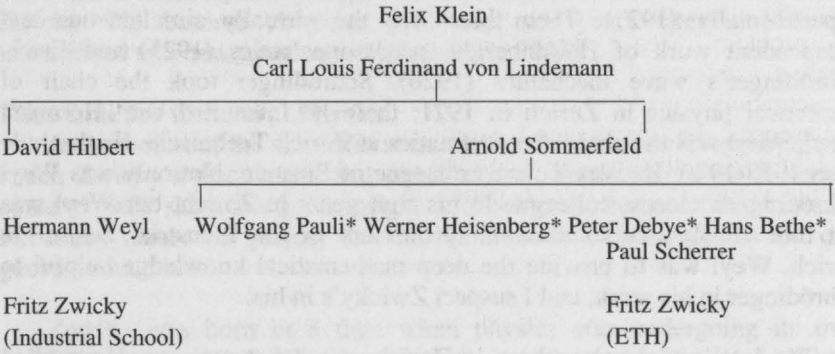
Light wasn't completely understood either, but the seminal work of James Clerk Maxwell established the electromagnetic nature of light (1864). This was followed by the profound experiments of Albert Michelson and Edward Morley measuring the speed of light and demonstrating that light doesn't need a medium to propagate (1887). Yet, it took a patent clerk, Albert Einstein (1905), to establish a corpuscular nature of light as packets of energy called photons. Einstein won the Nobel Prize in physics (1921) for this work on the photoelectric effect.

Subsequent work of Niels Bohr on the structure of the hydrogen atom opened the door wide for the emerging quantum mechanics (1913). The concept of the dual nature of light as wave and as particle was extended to all particles like the electron; i.e., Louis de Broglie proposed that electrons could be thought of as waves (1924). C. J. Davisson, C. H. Kunsman, L. H. Germer and G. P. Thomson (son of J. J. Thompson) verified this experimentally (1927). Then there was the virtually simultaneous and independent work of Heisenberg's matrix mechanics (1925) and Erwin Schrödinger's wave mechanics (1926). Schrödinger took the chair of theoretical physics in Zurich in 1921; there he interacted with Hermann Weyl. Weyl was the chair of mathematics at Zürich Technische Hochschule from 1913-1930. He was a close colleague of Einstein. Not only was Weyl Schrödinger's closest colleague in his first years in Zurich, but Weyl was also one of Zwicky's influential professors in the Industrial School in Zurich. Weyl was to provide the deep mathematical knowledge helpful to Schrödinger in his work, and I suspect Zwicky's in his.

The intellectual atmosphere in Zurich suited Schrödinger. He studied atomic structure in 1921 and began to study quantum statistics in 1924 leading to quantum mechanics after being stimulated by de Broglie's dissertation, together with Paul Dirac's coherent and elegant formalism (1928). (Dirac was a Swiss electrical engineer, mathematician, and physicist who interacted with Robert Oppenheimer. I am uncertain of any direct or indirect influence he may have had on Zwicky). But John von Neumann set all of quantum mechanics on a rigorous mathematical basis of operator algebra (1932). All of this is said to demonstrate the caliber of the key players in the contemporary development of quantum mechanics and their potential influence on Zwicky. After all, Zwicky's area of interest at this point was the quantum mechanics of atoms and metals. It's difficult to speculate on the origin of Zwicky's eccentric self-assurance or even his irascible temperament. I suppose one could argue that his mentors provided more than scientific illumination. For example, the bright theoretical chemist/physicist, Peter Debye, while still a graduate student of the eminent mathematical physicist, Arnold Sommerfeld, challenged Schrödinger to develop wave mechanics for the electron, otherwise he would.

The success of quantum mechanics to explain the atom will prove to be astounding. Much of this was occurring while young Zwicky was completing his doctorate in Zurich. Zwicky was cultivated in this exciting Swiss environment of bold physics, radical thinking, and ubiquitous genius.

Genius so prevalent, it's as if it had arms of a tree, branching in every direction Zwicky perched. I call it the "genius tree". Jesse Greenstein, the first head of the astronomy department of Caltech, reinforces my metaphor by referring to Zwicky as an eagle[46], "It is difficult to write a brief, conventional memoir about so unconventional a man. Fritz classified scientists into two categories, eagles and low-fliers; a low-flier like myself recognized clearly that Fritz was the high-flier." A portion of this tree shows the remarkable inter-relationships (asterisks indicate Nobel laureates, but all names are hallmarks of scientific/mathematical eminence):



This is not to mention the interaction young Zwicky had with Weyl, Schrödinger*, and Einstein*. Perhaps this is why Zwicky was first introduced to the public as "Einstein's student" in the *Pasadena Star-News*[47], which was reporting on Einstein's visit to Pasadena in the spring of 1931. In addition, Zwicky was involved with other Nobel laureates like Robert Millikan*, who brought Fritz Zwicky to Caltech and all of those he interfaced with at Caltech who were or became Nobel laureates (e.g., William A. Fowler*, Hans Bethe*, Otto Stern*, Hendrik Lorentz*). Then there are those with whom he directly or indirectly interfaced (e.g., Lev Davidovich Landau*).

The number of Nobel Prizes awarded by country are listed in several references with Switzerland and the United States being 22 and 270,

[46] Greenstein, *loc. cit.*, page 1.
[47] Müller, *loc. cit.*, page 25.

respectively [48]. However, when normalized with current population figures[49], which are about 7.45 and 293 million for the Swiss Confederation and USA, respectively, then the Swiss awards tally to an impressive 3:1 ratio compared with USA, at least on the surface. The important point is that Switzerland has traditionally fostered an environment for genius. As a point of interest, the list of Swiss Nobel laureates is documented on a Swiss Embassy web site[50]. I believe I have well established the point.

All the Answers- Morphological Analysis

Zwicky developed an approach to addressing problems that had larger scope than a mere solution, even at an early age while still in secondary school in the study of letters and how they are shaped and combined to form words[51]. Several excellent references[52] explain the details of the procedure. Citing *Morphological Astronomy*, one discovers that morphological analysis is "nothing more than an orderly way of looking at things…to achieve a schematic perspective over all of the possible solutions of a given large-scale problem." Step 1, the problem is specified (e.g., invent design, and construct a telescope to perform a certain function). Step 2, a schematic representation is made. (Consider all qualitative and quantitative parameters of telescopes: e.g., parameter 1 is ratio of light energy entering aperture to the light energy absorbed by recording instrument, which can assume three possible values (> 1, =1, <1); parameter 2 may be all possible kinds of

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[48] Accessed Nov 18, 2005, http://www.aneki.com/nobel.html.

[49] Swiss demographics- Gordon, Raymond G., Jr. (ed.), *Ethnologue: Languages of the World*, 15th edition, Dallas, TX., 2005 (SIL International Online version, accessed Nov 18, 2005, http://www.ethnologue.com/). USA demographics- http://www.aneki.com/populated.html or http://www.usatoday.com/graphics/census2000/uspop/uspop.htm.

[50] Swiss Embassy in Belgrade (accessed November 17, 2005, http://www.eda.admin.ch/belgrade_emb/en/home/divers/nobels.html)

[51] Müller, *loc. cit.*, page 9.

[52] Zwicky, F., "Morphological Astronomy." *The Observatory* 68, No. 845, Aug. 1948: 121-143. (courtesy of NASA Astrophysics Data System).

Zwicky, F. & Wilson A. (eds.), *New Methods of Thought and Procedure: Contributions to the Symposium on Methodologies*, Springer, Berlin, 1967.

Zwicky, F., *Discovery, Invention, Research - Through the Morphological Approach*, The Macmillan Company, Toronto, 1969.

Swedish Morphological Society, *Fritz Zwicky Developed General Morphological Analysis*, Tom Ritchey (info@swemorph.com).

Modeling Complex Socio-Technical Systems Using Morphological Analysis Adapted from an address to the Swedish Parliamentary IT Commission, Stockholm, December 2002 by Tom Ritchey, 2003 (Downloaded from: www.swemorph.com) has a good description of Zwicky's morphological analysis.

recording instruments available (photographic plates, ionization chambers, photocells, etc); parameter 3 might describe the interaction of light with the optical parts of the telescope (reflection, refraction, diffraction, etc.); and so forth. These parameters are matrixed and all possible combinations of parameter elements are made, each unique combination forming an imaginary telescope. Those possibilities with internal contradictions or which violate fundamental science are discarded. Additional parameters may be required to avoid too much generality. Step 3, the choices are evaluated on general higher-level principles, a general formula, or a figure of merit to assess performance. In the example of telescopes at the time of Zwicky's writing, this formulation still needs to be developed. Step 4, steps for direct action are taken; i.e., seriously examine all possible solutions consistent with resources and judicious choices made.

Zwicky notes that mathematicians and sociologists had applied the methodology with some success before it had been formalized. Even before I had heard of this methodology, I too had encountered various forms of morphological analysis. My work in establishing defense strategies in nuclear safety analysis and in my research[53] of space charge theory in dielectric liquids can be seen as examples of this. Zwicky successfully applied it to jet engine design and to celestial observations. Critical insights were derived leading to the posturing of contents of the universe, in particular, galactic clusters and their interaction, and the remarkable validation of Newton's laws of physics applicability over distances in excess of a million light years[54].

J. Greenstein points out in his commemorative of Zwicky[55] that the "method of morphological construction" passes the criterion set forth by philosopher William James to test the greatness of innovative ideas: "First the new idea is mocked as ridiculous and absurd, then it is admitted to be valid but overrated and of no particular significance, finally it is decided that the idea had been known long ago and that everybody had thought of it himself." So it was with morphology. I might also add, with compact galaxies and dark matter.

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[53] John C. Mannone, *Extended Space Charge Theory to Electrohydrodynamics of Dielectric Fluids in Quasistatic Equilibrium*, doctoral dissertation (unpublished), University of Tennessee, Department of Electrical Engineering, Knoxville, TN, 2003. The remarkable result that at an electrode surface the size of the ion atmosphere in electrolytes predicted by Debye-Hückel theory extends at least 4-orders of magnitude to the space charge dimensions in dielectrics. I mention this perhaps for nostalgia more than as an example of morphological analysis. Simply because of the relationship of Fritz Zwicky and Peter Debye and the work they did in electrolytes is consistent with my personal experiences as a chemist and as a physicist.

[54] One light year is the distance light travels at 186,000 miles/sec. It's almost six trillion miles.

[55] Greenstein, *loc. cit.*, page 4.

Abel 2218 Galaxy Cluster: NASA HST uses its Wide Field and Planetary Camera 2 to Image a 2-day exposure of A2218 (Jan 2000)

The Hubble images a giant, cosmic magnifying glass made from a massive cluster of galaxies called Abell 2218 in the constellation *Draco* about 2 billion light-years away.

The cluster is so massive that it distorts the space-time fabric into gravitational lens as predicted by Einstein's theory of General Relativity. It bends the light of very distant galaxies behind the cluster into our view, presenting a magnified and brightened, but distorted images of those otherwise hidden distant galaxies in the form of arc-shaped patterns found throughout the Hubble picture. These distant galaxies are 5-10 times further than the cluster allowing the imaging of the universe when it was a "baby," a mere 500 million years old.

Spiral and elliptical galaxies dominate the photograph, seemingly stung together as Christmas tree lights but held together mostly by invisible "dark matter."

Zwicky was the first to seriously embrace this concept while studying other much smaller galactic ensembles such as the Coma Cluster with an 18-inch Schmidt[i] telescope and applied the virial[ii] theorem to the Coma cluster of galaxies and obtained evidence of unseen mass, thus starting off the debate on what is (Swedish Morphological Society, *loc. cit.*, pages 4-6).

[i]A Schmidt telescope/camera is designed to provide wide fields of view with limited aberrations (with very fast focal ratios, yet controlling coma and astigmatism). Designed by Bernhard Schmidt (1879-1935), a contemporary of Zwicky, as a survey instrument, for research programs in which a large amount of sky must be covered. The optical components are a spherical primary mirror and an aspherical correcting lens (corrector plate) located at the radius of curvature of the primary mirror. The film is placed inside at the prime focus (adapted from Wikipedia, *loc. cit.*).

[ii]The virial theorem states that, for a stable, self-gravitating, spherical distribution of equal mass objects (stars, galaxies, etc), the total kinetic energy of the objects is equal to minus 1/2 times the total gravitational potential energy (see any standard classical mechanics textbook).

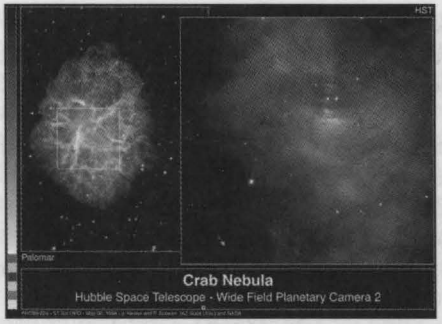
(Image STScI-PRC2000-08 courtesy of NASA, Andrew Fruchter and the ERO Team [Sylvia Baggett (STScI), Richard Hook (ST-ECF), Zoltan Levay (STScI)]).

Eccentricities

Zwicky was considered brilliant yet irascible. Of his many significant breakthroughs the bold assertion of the existence of the "dark matter" permeating galaxy clusters (like the Coma cluster) drew some attention. Though there seems to be insufficient visible matter to gravitationally bind the clusters, it would naturally follow there is something, call it "dark matter," to help resolve the dilemma. Yet, despite the proposal on the existence of "dark matter" by van Oort and latter by Einstein, Zwicky was not taken seriously. It was not unusual for his colleagues to dismiss him, almost as if he were a crackpot. Earlier in his career, when he (and Walter Baade) proposed the fate of exploding massive stars, Zwicky was laughed to scorn by his colleagues and by the media. For example, in a cartoon[56] entitled "Be Scientific with Ol' Doc Dabble," it insultingly scoffs: "Cosmic rays are caused by exploding stars which burn with a fire equal to 100 million suns and then shrivel from 1/2 million mile diameters to little spheres 14 miles thick." I find it interesting to note that a month earlier, the newspapers had reported a detailed article, without derision, on the discovery, even pointing out that Zwicky's announcement, concerning the cosmic radiation associated with a supernova, is consistent with Einstein's calculations filling six blackboards[57].

[56] *Los Angeles Times*, January 19, 1934 edition.

[57] *Ibid.*, December 8, 1933 edition (source: Müller, *loc. cit.*, page 34 and 35).



The Crab Nebula

The Crab Nebula, also a target of study for Zwicky and Baade at Mt. Palomar, is a remnant of a supernova explosion, a term coined by them, of a massive star witnessed by the Chinese in 1054 AD. A 1996 image is with the ground-based telescope at Mt. Palomar is contrasted with a 2002 image from the Hubble. The supernova remnant is in the constellation *Taurus* about 6500 light years away.

Filaments of material blasted into space as the star tore itself apart, and a rotating neutron star left at its core called a pulsar. (Had the star been more massive, a black hole would've been left behind instead of a neutron star). The chemical legacy of the star is in the filaments. Almost all of the elements in the universe other than hydrogen and helium were formed inside of stars or during a supernova.

Astronomer Carl Sagan may be credited with the expression "we are all star stuff"(*Cosmos*, PBS television series, first aired 1980s), but an artist may have said first, "we are stardust, we are golden" (*Woodstock*, lyrics by Joni Mitchell, performed by Crosby, Stills, Nash, and Young, 1969).

The complex nature of the Crab filaments are still not understood, but may bear the strong imprint of their interaction with the Crab "synchrotron nebula," a cloud of magnetic fields and energetic particles powered by the rapidly spinning neutron star at the heart of the Crab. This pulsar has nuclear density and is much greater than atomic density. In an atom, there is much empty space, but in the nucleus, there is none. A single cubic inch would weigh 6 billion tons. As the pulsar spins it drives a "wind" of energetic charged particles that become the synchrotron nebula. It should be noted that many high energy particles trapped in the supernova remnant, eventually gain energy because of the supersonic blast front, and released from convoluted magnetic fields there. It was visionary for Zwicky to attribute the source of most of this cosmic radiation to be the result supernova explosion. However, some of these particles are too energetic other sources, only recently being understood, contribute to the flux. NASA's *Imagine the Universe* cites possibilities: "perhaps they come from outside the Galaxy, from active galactic nuclei, quasars or gamma ray bursters. Or perhaps they're the signature of some exotic new physics: superstrings, dark matter, strongly-interacting neutrinos, or topological defects in the very structure of the universe." The Crab Nebula continues to be an enigma.

(Information is abstracted from Hester, et al., *Astrophysical Journal*, Vol. 448, p. 240-263 and plate 10-15, July 20, 1995; the Astronomy Picture of the Day; and other sources. Image credits courtesy of NASA).

In 1971, Zwicky published his comprehensive galaxy survey, *Catalogue of Selected Compact Galaxies and of Post-Eruptive Galaxies*, affectionately known as "The Red Book." In its introductory remarks, Zwicky reminisces about the cartoon and quotes it. Then, he passionately defends his bold assertions made nearly forty years earlier: "This, in all modesty, I claim to be one of the most concise triple predictions ever made in science." Why? Because it correctly describes the nature of origin of cosmic rays, supernovae, and the formation of neutron stars. By now, neutron stars have been experimentally confirmed with the discovery of a pulsar[58] in the Crab nebula.

Some sources say that Zwicky was fond of standing up in seminars to remind the speaker that he had solved the particular question presented many years before. I suspect this statement concerns Millikan (sort of his boss) when Zwicky would tease him about not having any original ideas of his own[59].

Though I haven't found the specific reference in Zwicky's letters, he allegedly referred to other astronomers at Mt. Wilson and Palomar as "spherical bastards." Spherical because they were bastards any way you looked at them[60]. I suspect that this reflects Zwicky's wit more than what might seem to be an aggravated insult. In my opinion, Zwicky could have been making clever reference to the spherical illegitimacies indigenous to spherical optics. Collected starlight does not focus sharply (as with parabolic optics). I would surmise that this spherical aberration is as much of a nuisance in telescope optics as some of his myopic colleagues were to him.

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[58] A pulsar is a rapidly rotating neutron star whose light emissions are beamed by strong magnetic fields in certain directions. And, much like a lighthouse, its directed beams of light (from x-ray to radio), can only be seen when the observer is in the line of sight of the beam. The first pulsar was discovered by Anthony Hewish and Jocelyn Bell at the Cambridge Radio Astronomy Observatory in 1967, and the most famous one (Crab nebula), shortly afterward. The Crab Nebula, remnant of an exploded star (supernova witnessed by the Chinese in 1054 AD in the constellation *Taurus*), has a pulsar that spins 30 times per second.

[59] Knill, *loc. cit.*, page 2.

[60] Kevin Krisciunas, *Strange Cases from the Files of Astronomical Sociology*, University of Notre Dame Department of Physics and Richard Preston, *First Light: The Search for the Edge of the Universe*, New York, Atlantic Monthly Press, 1987, p. 114. The reference from the distinguished theoretical physicist, Kip Thorne, who received his B.S. at Caltech in 1962 and returned with a Ph.D. from Princeton in 1967 to work on relativistic phenomena like gravitational waves, would have had the opportunity to see Zwicky. I don't think he liked Zwicky very much because of his non-flattering comments about him in his book, Thorne, Kip S. 1994. *Black Holes & Time Warps*, New York, N.Y.: W. W. Norton & Company.

Concerning eccentric scientists, Pickover[61] muses if this is an oxymoron. He poses the question, "I often wonder, as my friends suggest, if the term *eccentric astronomers* is repetitively redundant. Do astronomers become eccentric as a result of environmental factors such as sleep deprivation and jet lag, or do inherently eccentric people go into this business so as to have somewhere to fit in, sort of? Astronomical sociologists are hard at work trying to answer these questions." Clearly, Zwicky's eccentricity could be a measure of his genius!

Maverick

There is no question that Fritz Zwicky was an outstanding physicist and astronomer, but he often stood out as well. He was very opinionated and some thought he was difficult to work with. Also, he was a maverick. There is documentation that supports Zwicky to be the brunt of jokes at Caltech because of his unorthodoxy, despite his successful insights[62]. He believed that genius is in all of us and that each of us is responsible to work hard to promote an intellectual environment where it can flourish. I believe that he thought that his working with others in the traditional way would suppress this genius. His methods of pedagogy, of searching for all possible solutions to problems, as well as his radical (though often correct) speculations, often alienated others. However, I think a case could be made for a change in his demeanor after he arrived at Caltech. From his journal entries and letters to friends as reported in the cited German biographical work by Müller, it can be seen that Fritz was always a bright young man with clear leadership qualities and a desire to help the less fortunate (intellectually or otherwise). There was tremendous pressure (often self-imposed) on the scientists at Caltech during this era of new physics. It would not be surprising to see some of his colleagues jealous of his ability in such a competitive environment. Pride is a natural occupational hazard among scientists in the frontiers of physics; some deal with it well and subjugate it, others let it breed arrogance. Perhaps I am not qualified to psychoanalyze the personalities involved, but I feel that Fritz Zwicky deserves greater respect than is often witnessed in the flippant remarks of some. I like the way Jonathan Swift puts it[63], *When a true genius appears in this world, you may know him by this sign, that the dunces are all in confederacy against him.*

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[61] Clifford A. Pickover, *Strange Brains and Genius: The Secret Lives of Eccentric Scientists and Madmen*, Quill, 1999.

[62] Müller, *loc. cit.*, page 105.

[63] Jonathan Swift (1667-1745) was an Irish author and sharp-witted satirist. *Gulliver's Travels and Other Works by Jonathan Swift. Edited by Henry Morley. New York: E.P. Dutton, 1906,* " An Essay On The Fates_Of Clergymen," *p. 355-362.* See also William Beaty, *RIDICULED DISCOVERERS, VINDICATED MAVERICKS*, 2002 (accessed Nov. 19, 2005, http://www.amasci.com/weird/vindac.html).

Though hardly a thorough cross-section of how Zwicky got along with his colleagues, some sense may be inferred from the following interviews of physicists at Caltech who interacted with Fritz Zwicky.

Hans Bethe, recipient of the Nobel Prize in physics in 1967 for his work on nucleosynthesis (production of elements by nuclear reactions in stars) was interviewed a couple of times (1982, 1993). Below is a modified portion of the script, but I was careful to keep the context of the conversation[64]:

GOODSTEIN: I don't know if you had anything to say about [Fritz] Zwicky?
BETHE: Not much.
BETHE: Zwicky I met a couple of times on visits here. He was quite a character. He really did superb work on the supernova observations. He was not the only one. Walter Baade was involved even more. But Zwicky predicted, very early on, many things that we learned twenty years later—theoretical matters, too. He said, "Well, the remnant of a supernova will be a neutron star." Nobody else would have dared to say that at the time.
GOODSTEIN: That was in the thirties?
BETHE: Yes. There was a theory, which was published by Oppenheimer and [G.M.] Volkoff on the structure of neutron stars ["On Massive Neutron Cores," Phys. Rev. 55, Feb. 15, 1939]. But nobody but Zwicky would believe it. And he said, "Well, that's what it will be. And it will have a radius of ten kilometers." Which is right.
GOODSTEIN: Did you believe it at the time?
BETHE: I thought it was pure fantasy. How could such a thing be? So where supernovas came really into my knowledge was only with the work of Hoyle, Fowler, and the Burbidges, when they said that this is the way all the elements are formed. But Zwicky had predicted it all before.
GOODSTEIN: From first principles?
BETHE: More or less, yes. At the same time, he was so extremely Swiss. Swiss never lose their national characteristics, which other people do. But Zwicky was as Swiss as one could be. Not only was he proud of Switzerland, but of his own canton [Glarus], which is one of the less known cantons. He would go back there and vote from time to time.
GOODSTEIN: He did not become an American citizen?
BETHE: That I don't know. You can be both a Swiss and an American. And you cannot lose your Swiss citizenship, no matter what you do.
GOODSTEIN: He sent his papers back to his Swiss canton.

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[64] Hans A. Bethe (1906-2005), Interviewed by Judith R. Goodstein, February 17, 1982, January 28, 1993, p. 33-35 (Archives of California Institute of Technology, Pasadena, California).

BETHE: He did? Well, that's very much his style.
GOODSTEIN: Was he an easy man to get along with?
BETHE: I didn't have occasion to observe, because I only saw him twice at lunch, and maybe for a half an hour or an hour in an office. I wouldn't know.

Frank Oppenheimer worked on the development of the atomic bomb with his older brother, Robert. Later he contributed to the development of beta and gamma spectroscopy as well as to the perfection of the theoretical modeling of the neutron star which Zwicky had first posited seriously[65]:

GOODSTEIN: Well, I was going to ask you about some of the professors you had. What was [Fritz] Zwicky like? He's sort of legendary around the campus.
OPPENHEIMER: Well, I had a problem there. My first year in Hopkins, I took a sophomore or junior course in mechanics at the same time I was taking calculus. And I think I must have found it sort of hard. I got good grades in it, but I didn't like the subject. And I tried to make up for that by always, whenever I went to Paris, taking a mechanics book with me and doing some work on it. [Laughter] I must have really hated it. But then Zwicky's course in mechanics [later at Caltech] came at eight in the morning. It was the first year I was married, and I didn't get there very often. So he was going to give me an F. And I said, "Well, give me a test in it." And he gave me a test in it, and I passed the test and didn't get the F. So I really didn't like Zwicky very much. [Laughter] And I didn't like the way he taught the mechanics course either, especially.
GOODSTEIN: Was he dogmatic?
OPPENHEIMER: Well, I don't know. It wasn't so much dogmatic. It was all in the formalism and he wasn't interested in the meaning or utility of the subject, as I remember it.
GOODSTEIN: Was it easier in those days to become friends with professors? OPPENHEIMER: I found it so. But I'd done that at Hopkins. As an undergraduate, I knew the professors very well.
GOODSTEIN: When you became friends with them, would you go on a first-name basis?
OPPENHEIMER: I suppose. Certainly with Charlie and with Richard Tolman, and with Houston. I don't think with Epstein or Zwicky.

[65] Frank Oppenheimer (1912-1985), Interviewed by Judith R. Goodstein, November 16, 1984, p. 28, and 30 (Archives of California Institute of Technology, Pasadena, California).

Jesse L. Greenstein, DuBridge Professor of Astrophysics, emeritus, discusses his building an astronomy department in the Division of Physics, Mathematics, and Astronomy upon his arrival at Caltech in 1948[66]:

PRUD'HOMME: I'd like to go back and discuss with you briefly some of the people we mentioned before and perhaps some of the people we inadvertently omitted who were here when you first got to Caltech. You spoke of Fritz Zwicky and said that he was an irregular type of astronomer. What was he like?
GREENSTEIN: Fritz was a self-proclaimed genius, and in many ways he was one. He was a protégé of [Robert A.] Millikan and had not been completely happy as a member of the physics department.
PRUD'HOMME: Why?
GREENSTEIN: Because his opinions in physics and his methods of teaching were both somewhat amusing and controversial. His teaching was directed to those geniuses who would think as he did. And his interests in physics were perhaps premature for the state of physics then; some involved solid-state problems. He was very much alone in the physics group. I gather, since it happened long before I came, that it was Millikan's suggestion that he become an astronomer. He became eventually a professor of astronomy and gathered a small group of people who were personal admirers and who worked with him in pursuit of what he called the morphological approach to science.
PRUD'HOMME: Did he take these people from other departments, or did he bring them in?
GREENSTEIN: The people who worked with him were all non-regular members of the faculty: temporary employees, lecturers, et cetera. He was very much the European professor, the one person with authority and with ideas. He did moderately well before the 200-inch was finished, for example, using the 18-inch Schmidt telescope on Palomar, for whose construction he pressed and of which he was the major user. His major contributions, for which he was recognized well before I came, were in discovery and study of supernovae—violent explosions of massive stars , which have been almost the classical prototype of explosive events in other galaxies and possibly quasars. He ran a program for the discovery of supernovae with the 18-inch Schmidt, and various people went down to Palomar and took photographs of the sky. As supernovae were found, they were announced. He followed them up as best he could, with equipment then available. As another part of his talents, he was in favor of and pushed the construction of our 48-inch Schmidt telescope at Palomar, which was later used for mapping the entire sky. And he used that later himself, for

[66] Jesse L. Greenstein (1909-2002), Interviewed by Rachel Prud'homme, February 25, March 16 & 23, 1982, p. 31-35, 37 (Archives of California Institute of Technology, Pasadena, California).

discoveries of clusters of galaxies. He had a feeling that from fundamental, simple, physical principles one could predict the behaviors of large aggregates of stars, of galaxies, of clusters of galaxies, et cetera. And he tried by elementary subjective methods to deduce important conclusions from such mapping programs. He was violently opposed to Einstein's general theory of relativity, and in particular the expansion of the universe. He refused ever to adopt a distance scale to the galaxies or to call the red shifts true velocities.

PRUD'HOMME: So he wasn't very popular.

GREENSTEIN: He was not popular with the establishment, and he was often very wrong. However, in the study of the clusters of galaxies, which he initiated on the 48-inch Schmidt, but which was in fact carried out by a young graduate student, George Abell, Zwicky published several catalogs of clusters of galaxies and also discovered galaxies of interesting appearance, which he also cataloged. Although he misinterpreted some of these observations on the basis of his general philosophical theory, a good deal of his factual discovery in cataloging is in fact his largest claim to fame. It is one of the reasons that the younger astronomers in observational cosmology depend heavily on his work and admire his contributions. He was an extraordinarily original thinker, but he refused to work either with modern technology or with any elaborate theoretical or measuring apparatus. So he was a problem child; since I was nominally running things, I had my problems with him. He was an irregular; he refused to teach in any conventional way. He taught a course in physics for which admission was at his pleasure. If he thought that the people were sufficiently devoted to his ideas, they could be admitted. He taught a classical mechanics course in physics, which was passed with a hundred-percent grade by a nonexistent student, who was a composite of students and professors of physics who wrote the best papers that Zwicky had ever seen. He was "teasable", and he was gruff and violent and everything. One of the worst parts of this situation was that he had collaborated with the great Mount Wilson observer and cosmologist Walter Baade in the discovery of supernovae. He and Baade split violently. They were a dangerous pair to put in the same room; in fact. Zwicky called Baade a Nazi, which he wasn't. And Baade said he was afraid that Zwicky would kill him.

PRUD'HOMME: Very strong.

GREENSTEIN: Yes. He was a very interesting person. I think he'd be worth a good deal of study. His papers and essentially all his letters, I think, are in Switzerland. There is a Zwicky Foundation in Glarus, where he is viewed as a great thinker. He has certain characteristics of nineteenth-century German idealistic philosophy, I would say.

PRUD'HOMME: One isn't necessarily trained to be a collaborator.

GREENSTEIN: No. He was impossible. I collaborated with him once, through all the years we were together. I fought with him perhaps ten times a year. There were always difficulties. His publications often included

violent attacks on other people. At one time, the director of the observatories, Ira Bowen, had troubles and tried essentially to institute a censorship of Zwicky. That caused trouble. There was always a certain temptation not to give Zwicky enough observing time with the 200-inch, because so little of what he did with the telescope led to formal publication. On the other hand, if one just thinks of the ideas now prevalent for what's inside active galactic nuclei or inside quasars, Zwicky really thought of them first. If one thinks of neutron stars, Zwicky thought of them actually before [J. Robert] Oppenheimer—in a non-quantitative way. As soon as the neutron was discovered, Zwicky decided he could invent a star made of neutrons. Thus he was a genuinely original person. There's no doubt that he had a mind, which was quite extraordinary. But he was also—although he didn't admit it—untutored and not self-controlled.

PRUD'HOMME: Perhaps he flourished better at Caltech than he would have at many other institutions.

GREENSTEIN: Well, he flourished well because one didn't touch him and one didn't interfere with his group activities. And he was a person who could get along that way. He was one of the founders of Aerojet Corporation, which was invented at the beginning of the war. And he had a continuing connection with them as chief scientist—till he was forced out, because of his non-U.S. citizenship, after the war. I am sure he made many original contributions there. My younger colleagues are very fond of him. I am fond of him now that I don't have to fight with him.

PRUD'HOMME: You said that finding interesting people and keeping them happy was your greatest administrative headache at Caltech. What made them unhappy?

GREENSTEIN: Well, take as an example just the few people I've spoken about. Robertson gave his course on relativity theory and commuted to Washington and to Europe, and managed to do everything with a smile and to enjoy parties and to like people. He had a remarkable personality. We talked earlier about Zwicky, who had a remarkable personality of a different kind. The only thing one could do to keep Zwicky happy was to give him everything he wanted and keep out of his way. But most other brilliant people have problems coping either with success or failure— mostly with success—and coping with other people and keeping creative and not becoming sullen or self-destructive.

Along with Enrico Fermi, Franco Rasetti played a key role in the rebirth of Italian physics in the 1920s and 1930s. Here he talks fondly of Fritz Zwicky[67]:

[67] Franco Rasetti (1901-2001) Interviewed by Judith R. Goodstein, February 4, 1982, p. 11-12 (Archives of California Institute of Technology, Pasadena, California).

RASETTI: Zwicky and I had mostly in common not physics but mountain climbing. And we did the first winter climb of Mount Whitney on the first and second of March in 1929. Apparently it had never been climbed in winter before—at least Zwicky said so. I was very good friends with Zwicky, who was a very original person. Although his main interest was in crystals, as you probably know, he was the one who invented supernovas.

GOODSTEIN: Had much attention been paid to that by the people at Caltech?
RASETTI: Yes—by the astronomers, of course. And though it wasn't my field, I visited the Mount Wilson Observatory; at that time, Mount Palomar hadn't been built.

The Tribute of Poetry

Interestingly enough, a contemporary of Fritz Zwicky, Maurice du Martheray (1892 – April 12, 1955) was both a Swiss astronomer and poet. He was a noted observer with over 30,000 high-resolution photographs of the sun, moon and planets[68]. Unfortunately, on-line searches proved disappointing in learning more about this astronomer/poet. However, a very tangential relation can be drawn via a Swiss amateur astronomy club and the Hubble Space Telescope (HST). The Swiss Astronomical Society was founded in Bern in November 1938. The first issue of its official journal, ORION, appeared in October 1943. It was edited by several, including the dental surgeon and reputed observer of Mars, Maurice Du Martheray of Geneva[69].

Another coincidence, which also proved unsuccessful, concerns a current day celebrated poet and philosopher, Jan Zwicky, at the University of Victoria in Canada. Though clearly related, the genealogy remains ambiguous at the writing of this essay.

In Müller's German biographical treatise, there is a poem written by Mrs. Dorothy Kiel, an admirer of Fritz Zwicky, concerning his mission to find supernovae. It seems stimulated by the children's' poem, *The Star*, written by the sisters Ann and Jane Taylor (1806). The first verse[70] is,

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[68] Wikipedia, the free enclyclopedia- Maurice du Martheray.

[69] Noel Cramer (Observatoire de Genève). "Editing a Multi-lingual Astronomy Magazine." In *Organizations and Strategies in Astronomy II*, ed. A. Heck. Kluwer Academic Press, 2001. [It is interesting to note that astronaut Claude Nicollier carried a copy of that first issue on the space shuttle *Endeavour* in December 1993 during the first Hubble Space Telescope servicing mission, celebrating thus in a highly symbolic manner the fiftieth anniversary of ORION as, maybe, the first amateur astronomy journal to fly in space and orbit the company of one of the most powerful modern telescopes!].

[70] Ann and Jane Taylor, *Original Poems for Infant Minds, 2 volumes, and Rhymes for the Nursery*, preface by Christina Dall Stewart (New York: Garland, 1976), ed. Ian Lancashire:

Twinkle, twinkle, little star,
How I wonder what you are!
Up above the world so high,
Like a diamond in the sky.

Comparing with Kiel's modified version[71], one finds an apparent lack of rhyme discipline,

Funkle, funkle, kleiner Stern;
Wir werden bald wissen, wer du bist.
Wenn du noch keinen Namen hast,
wirst du bald einen erhalten.
Explodiere nur - mach etwas Pfiffiges!
Falle Mr. Zwicky ins Auge!
Vergiss aber nicht, kleiner Stern,
Tu das über Palomar!

In another effort, one might find it amusing to read *The Dark Matter Rap*[72] by the Ohio State University cosmologist, David H. Weinberg. I am not certain what relation, if any, David has to the 1979 Nobel laureate in physics, Stephen Weinberg. Not withstanding this, regardless how funny the poetic song may be, it's literary lackluster and roust of Fritz Zwicky won't qualify it as poetry. It ranks perhaps a notch above limericks, so often attempted by well-intending scientists.

On a more serious note, having failed to find even contemporary Swiss poets who use astronomical allusion as an extended metaphor, I humbly submit my own poetry to complement Zwicky's achievements. *Through the Keyhole* represents a tribute to the Hubble Space Telescope (HST), yet indirectly also serves Fritz Zwicky. His many astrophysical nuances are captured in the photographic mission of the HST deployed in 1995. From this extraterrestrial observatory, a plethora of exotic galaxies, in clusters and in collision, present themselves in testimony to Zwicky's insights. The Hubble Deep Field is a 10-day exposure in a small slot in the heavens in the constellation *Ursa major* (alternatively called "The Big Dipper") called the "keyhole." This speck of sky covers the area of a dime when viewed seventy five miles away. Allegedly believed to be devoid of any stellar activity, the view through the "keyhole" revealed over 1500 galaxies through the distant past in various stages of development. (The Hubble Ultra Deep Field composite revealed over 10,000 galaxies in a similar exposure in 2003/2004).

"The Star" first published 1806.

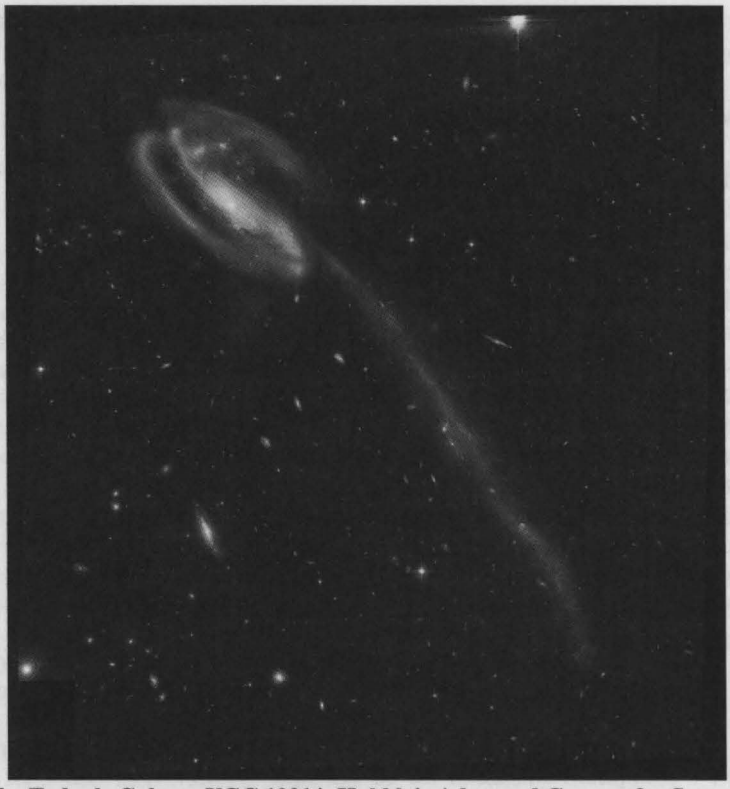
[71] Müller, *loc. cit.*, page 42.

[72] David H. Weinberg. *The Dark Matter Rap: Cosmological History for the MTV Generation* (1992), (see Wikipedia account of Fritz Zwicky) (primary source Timothy Ferris, *The Whole Shebang: A State-of-the Universe(s) Report*, New York, Simon & Schuster; 1997, *circa* p.122 in the 1998 reprint edition).

Through the Keyhole[73]

it slews through the vacuum of dark—
no air to hear it whir,
searching, as a lone sentinel, for light of stars. Pupils wide
as a giant owl's, five hundred times bigger, straining out the light
for a million seconds, staring in the dark, like a nocturnal bird
on the prowl for mice
colliding in the dark field,
or where tadpoles arc to escape,
their tails leaving wake
in a pond of galaxies. A deep-field filled
with sparkles of spirals and fuzzy ovals
appearing like iridescent eyes of a zillion shrimp on night corals,
each a starburst speck shrouded with a hundred billion stars
and each like a seething caldron with the magic of alchemy, breathing atoms
as far as to the edge of creation—
my atoms of dust
wisping so far back in time, you can almost hear His whisper
echo in the cosmic dust

[73] John C. Mannone, *Through the Keyhole*, May 2005 (from a collection (in progress) entitled, *Shards of Space: A Poetic Tour of the Universe*. Notes: the "Mice" and "Tadpole" [illegible]



The Tadpole Galaxy: UGC 10214: Hubble's Advanced Camera for Surveys April 2002

The Tadpole galaxy, in the constellation *Draco*, 420 million light-years away, is a faint magnitude-15 object (4000 times dimmer than the faintest object seen with the naked eye). Collision with a small, very blue compact galaxy (upper left corner of UGC 10214) causes the distorted shape of the Tadpole. (Zwicky was scoffed at when he proposed the existence of compact galaxies. Some are now called quasars).

Strong gravitational forces from the interaction created the long tail of debris, consisting of stars and gas that stretch out more than 280,000 light-years. Typical collisions, as in the Mice galaxy, produce more symmetrical tidal arms called antennae. (Galactic interactions were extensively studied and catalogued by Zwicky- he called them bridge structures).

Numerous stellar nurseries, star clusters with a million stars spawned by the collision, dot the spiral arms and the tidal tail. Some of these clusters will become dwarf galaxies. The galactic epic is playing out against a spectacular backdrop of 6,000 galaxies, more dramatic than the legendary Hubble Deep Field (HDF1995 with the Wide Field and Planetary Camera 2). The ACS picture only took one-twelfth the exposure time than the HDF.

The color ACS image is so sharp that distant colliding galaxies can be seen.
(Image STScI-2002-11 courtesy of NASA, H. Ford (JHU), G. Illingworth (UCSC/LO), M.Clampin (STScI), G. Hartig (STScI), the ACS Science Team, and ESA).

A follow-up poem, *Magic of Cepheid*, concerns the death of a massive star resulting in supernova,

Magic of Cepheid[74]

With Earth as stage, I wait for show of magic
The night, like Merlin, dons his hat of stars
and his robe of milky glitter.
Then waves his wand as soon as Sun stops peeking,
Voilá, heaven's fireflies are cast as stellar jewels.
Zoom in on twinkling stones, like the magic of that Cepheid,
to see the alchemist's caldron cooking all the gases
forming thicker and thicker,
a soup flavored with onion layers of ionized salts
from fusion and the magic of all this matter
changing to energy of heat—
the round pot boils the plasma broth
of hydrogen, helium
magnesium, nickel
and the heaviness of iron.
Stubborn iron, which doesn't want to play the game.
Won't stick around to transmute
just waits for the crush of violent magic, *Poof*.
The ruby star disappears
leaving a gold threaded veil
draping an invisibly dark bezel
where the jewel had once set.

[74] John C. Mannone, *Magic of Cepheid*, September 2005 (from a collection (in progress) entitled, *Shards of Space: A Poetic Tour of the Universe*. Notes: Cepheids are variable stars. These red giants periodically brighten because of the dynamics of helium and hydrogen and their ions in the outer part of the star. If massive enough, the Cepheid will become a red supergiant star. Synthesis of elements by thermonuclear fusion continues, successively depositing layers of certain elements until the core eventually becomes iron. It is not energetically favorable for iron to fuse together and the violent gravitational collapse of the star tears it apart. Just before hand, electrons are crammed into the nucleus of iron, which becomes a sphere of neutrons. A highly compact neutron star remains as the shredded star (supernova) crashes into the shock wave front.

The Human Side[75]

Although as a Swiss citizen[76] living abroad, Zwicky was not called to arms during World War II, he nevertheless worked for victory over the Axis. He served as director of research for the Aerojet Engineering Corporation in Azusa, California (1943-1949), which was engaged in jet and rocket propulsion research for the U. S. military; on the Scientific Advisory Board of the Army Air Forces; and as one of the board's technical representatives sent to evaluate wartime jet propulsion research in Japan and Germany (1945-1946).

Zwicky's dedication to humanitarian causes dates back to his days in Zürich. He particularly admired the work of Fridtjof Nansen, a pioneer of refugee relief. From 1946 to 1962 he was a member of the Pestalozzi Foundation, which financed war orphan villages. Locally, he denounced the smog that already plagued Los Angeles and proposed a tax on cars occupied by lone drivers. His most impressive initiative involved him in a decade-long effort when, realizing how World War II would ravage intellectual resources, he founded the Committee for Aid to War-Stricken Scientific Libraries. Starting in 1941, the committee gathered scientific publications and provided them free of charge to libraries abroad. Institutions in France, Germany, Japan, the Philippines, South Korea, and Taiwan were among its beneficiaries. For his many contributions, Zwicky received in 1949 the Presidential Medal of Freedom from President Harry S. Truman - in spite of Zwicky's criticism of the United States' bombings of Hiroshima and Nagasaki, Japan.

Honors and Distinctions in Physics

Gold Medal of the Royal Astronomical Society (its highest award) was conferred on Fritz Zwicky in 1972. He shares this distinction with other great scientists in his lifetime. The ones mentioned below made contributions in astronomy that at the very least were tangentially related to Zwicky's research interests. Some of these who also won the gold medal are 1904 George Ellery Hale, 1915 Alfred Fowler, 1926 Albert Einstein, 1934 Harlow Shapley, 1940 Edwin Hubble, 1953 Subrahmanyan Chandrasekhar, 1954 Walter Baade, 1968 Sir Fred Hoyle, and 1969 Martin Schwarzschild.

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[75] Mostly extracted from *American National Biography*, *loc. sit.*

[76] Müller, *loc. cit.*, page 84. During the cold war era, Zwicky rejected the request to become a citizen of the US so he could retain his clearance. He claimed there were two classes of citizens in America. Zwicky says "a naturalized American is a second class American…if as a Swiss, I have more liberty have than Americans, then I remain Swiss."

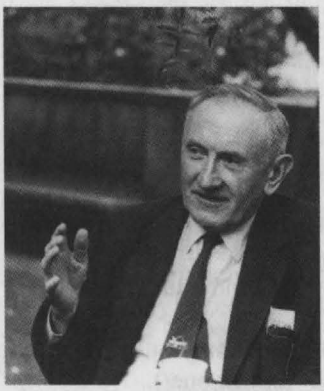
Legacy- Summary and Conclusions

Not enough poetic lines or sufficient justice to the physics can be written here to illustrate the significance of Fritz Zwicky. Novae and supernovae, neutron stars, extragalactic cosmic radiation (gamma rays), black holes and dark matter, gravitational lensing, galaxy clusters, compact galaxies and quasars are only part of the litany.

Shakespeare sums it up perfectly, *But be not afraid of greatness: some men are born great, some achieve greatness, and some have greatness thrust upon 'em.*[77]

I think Zwicky was all three.

John Charles Mannone
Hiwassee College



Fritz Zwicky at the Space Conference: The Future of Space Explorations, April 1959

Some notables at the conference at Dabney Lounge, Caltech: Sydney Chapman, W. Randolph Lovelace, Howard Lucas, William Pickering, W. D. Rannie, Ridenour, H. P. Robertson, Thompson, James Van Allen, and Fritz Zwicky.

Besides astrophysics, Zwicky was also heavily involved with Aerojet, a rocket factory. His interest was in unmanned rockets to the moon, space law, and a Jules Vern type of science. Zwicky was proud of his contribution to the first manmade projectiles into space. German V2 rockets, at the apex of its trajectory, would fire bullets in an attempt to escape Earth's gravity. Initial experiments in 1957 were unsuccessful. Zwicky's success in 1967 was overshadowed by the successful launch of the USSR Sputnik satellite (Knill, *loc. cit.*, pages 7-8). (Reproduced by Permission of the Caltech Institution Archives, Photograph by James McClanahan)

[77] William Shakespeare, *Twelfth Night*, II, 4, 145.

About the Author:

"When in an astronomy classroom, one of Professor Mannone's operating dictums is often voiced: "rediscovering history and literature through astronomy." A corollary to this is "rediscovering astronomy through poetry."

His astronomy-related poetry blends lyrical tones with descriptive verse. Though highly metaphorical, it strives for technical accuracy. His favorite "equations" are rich imagery, allusion, alliteration, and internal rhyme. As a physicist, his passion to understand the Universe is only surpassed by his passion to know its creator; this is often reflected in his poetry.

Since he seriously started writing in May 2004, Mr. Mannone has been published in *Iodine Poetry Journal*, *Thrift Poetic Arts Journal*, *Fresh Air* (2005 Anthology of Rhyme and Chatt), *Frontage Road*, *Caney Creek Sampler*, the *International Dark-Sky Association Newsletter*, the *Cleveland Banner* newspaper, and is featured in *The Reflector* (Astronomy League magazine).

Mr. Mannone holds advanced degrees in Plasma Physics (University of Tennessee Knoxville, TN, 1988) and Physical Theoretical Chemistry (Georgetown University, Washington, DC, 1978). He is a nuclear consultant and an avid amateur radio astronomer as well as a Visiting Professor of Physics and Astronomy at Tamke-Allan Observatory. He also serves as a Professor of Physics at Hiwassee College (Madisonville, TN). His research interests are astrophysical plasmas, radio scintillation, and electrohydrodynamics in dielectric liquids.

Additional information on astronomy outreach efforts is seen on his web site (http://home.earthlink.net/~jcmannone/).

THE IMESCHS FROM THE UPPER VALAIS – GLIMPSES OF A SWISS AND NORTH-AMERICAN FAMILY

by Marianne Burkhard

1. Introduction

The Valais is the third-largest canton of Switzerland covering 2016 square miles of which only 1107 are productive. It is also a world of its own: it received its name "the valley" from the 100 mile long valley of the Rhone River which has its source above the small town of Gletsch below the highest point of the Furka pass. This main valley is flanked on the north and south side by many of the highest peaks of the Swiss Alps. The northern side toward the Canton of Bern is forbiddingly steep, and the Lötschental and the valley leading to the Leukerbad are the only valleys which branch off on this side while many long and deep valleys branch off on the southern side, e.g. the Mattertal with Zermatt, the Saastal with Saas Fee, the Val d'Anniviers, the Val d'Herense, the Val de Bagnes, the Val d'Entremonts leading to the Grand Saint-Bernard Pass. Because of these formidable mountain ranges, the only open access to the canton is at its westernmost point toward the Lake of Geneva, and even there one has to pass through a narrow gate at Saint-Maurice to enter the main part of the Valais. All the other routes to the canton must cross mountain passes: the Furka and Grimsel from the east, the Nufenen, Simplon, Grand Saint-Bernard and Col de Forclaz from the south, and the only access from the north are from Aigle over the Col des Mosses and the Col du Pillon and through the Lötschberg tunnel and the Lötschental.

The canton is often described as a world of extremes with the highest mountains and the remotest valleys of Switzerland while still being an international thoroughfare, with a polar climate in the high elevations and a fertile, almost Mediterranean plain that is filled with orchards, tomato plantations and vast vineyards that fill the slopes on the northern side. The canton is bilingual: Until the late 19th century the larger part, from Sitten eastwards, spoke German; today French is the main language up the Pfynwald east of Siders, and Sitten, the canton's capital, has become Sion, Siders Sierre. The cantonal coat of arms has 13 stars: 4 white on red ground, 4 red on white ground, and in the middle 5 which are half red and white.

The Valais was one of the last cantons to join the Swiss Confederation, yet according to one author has a deep tradition of independence reaching back to its Celtic past that resulted in an "autarchy of the Valaisan valleys"

(Arlettaz as quoted in Chapman ..). In some places women had customary property rights, daughters a claim to an equal share of the family assets, and already in the 15th century the articles of the town of Naters made it illegal to treat women different from men when partitioning an inheritance (Chapman 12).

Farming in these steep valleys poses great challenges as does the short growing season. Communal pasture lands and water rights were very important to farmers who eked out a living in a subsistence farm economy. A study of the canton's economic situation in the middle of the 19th century (Anderegg 99) describes the situation: Until the 1850s the Valais remained agrarian and had no part in the economic growth taking place elsewhere. Thus, when the population grew, the farms were no longer able to produce enough food. Though in the late 1860s the course of the Rhone River was corrected creating a most fertile plain (*Rhoneebene*) and resulting in an expansion of farm production, there was no corresponding expansion of business or industrial activity in this part of the canton despite the fact that it could be reached relatively easily by rail and roads.

Moreover, possibilities for social mobility were lacking, and any free enterprises remained limited to farming. Small trade shops in the low lying towns were usually not operated by locals, but by immigrants who, in the Upper Valais, had come from as far as Tyrol, Baden and Württemberg, while peddlers from Italy sold those things which the farms could not produce. The industrialization of the Valais around 1850 consisted of just a few factories in the Lower Valais, i.e. a foundry in Ardon, a glass factory in Monthey, a nail factory in St-Gingolph, a cloth factory in Martingny , and a paper mill in Vouvry and Naters (near Brig, the only factory in the Upper Valais). In this closed farm society, paid labor was seen as alien and as a sign of poverty and dependence. Therefore, way into the 20th century the Valais remained a canton which was "characterized by a forced conservatism" because it lacked the political, material, mental and educational prerequisites for innovative improvements of the people's precarious economic conditions (Anderegg 100).

Emigration from the Valais to other continents began in the 1850s. First, Valaisans went mainly to South America, but in the later 19th century North America became a more frequent destination. Jane Adèle Chapman's article on Valaisan immigration to the United States lists emigrants coming mostly from the French speaking part and the same is true of her "Profiles of Immigration."

The story of the **Imesch family** from the Upper Valais – they lived in towns between Visp and Fiesch – illustrates many of the characteristic features of this canton. *Amadeus Imesch* (1834-1905) farmed, he also worked as carpenter, bricklayer, glazier and mountain guide. His wife, *Luise Venetz*, also worked as midwife. All this allowed the family to be independent and to provide their ten children with a good education: four

became teachers, two priests, three carpenters and one a farmer. It is noteworthy that the oldest child, Katharina, became a teacher, but never married; she helped her parents educate the younger siblings.

His son *Isidor Imesch* (1861-1923), a teacher, had twelve children, six boys and six girls. Three of the boys – John, Dionys, and Leopold – emigrated to North America, three girls joined religious orders, and one son entered the Papal Guard. *Dionys Imesch* emigrated in the early 1930s after having been employed in hotels as far away as St. Moritz in the Engadin. There he met his wife Margrit who was from the Valais also. They married and emigrated right after their wedding when they were both in their 30s, perhaps a sign that young people from this part of Switzerland were not financially able to marry earlier. Though Dionys Imesch had little formal education, he made his way in the United States, and his three children obtained a good education: Janet became a nurse, John a lawyer, and Joseph a priest who subsequently became Bishop of Joliet in Illinois.

The biographical sketches of the Imeschs who remained in Switzerland also illustrate that in the 20th century young people with a good education had more professional possibilities. Ferdinand Imesch (1863-1928) had a son, Emil (1899-1972), who left teaching for work in the Cantonal Bank, and his two sons became a dentist and a professional military officer. Leopold Imesch (1875-1936) began as a teacher, but then rose to the rank of colonel in the army and began a wine business in Siders/Sierre, which his son Henri continued, while two other sons, Paul and Leo/Léon, became Augustinian monks in Saint- Maurice. This shows that the family became more professional and that some family members moved down-stream and became more French-speaking.

The family history of the Imeschs as presented in these documents also illustrates what one author calls the "enormous vitality" of the people who had settled in the Upper Valais (Alleman, 504). Though they lived on small farms in a country that was rough and rather inimical to the normal desire of parents to help their children find a good livelihood, they worked hard, greatly appreciated education and the profession of teaching, and evidently provided their children with good values and a clear sense of purpose.

Marianne Burkhard OSB

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2. Joseph Leopold Imesch, Bishop of Joliet, IL

Dionys Imesch (1894-1968), the father of ***Bishop Joseph Leopold Imesch***, was one of 12 children of Isidor Imesch (1861-1923) and Marie Eyer from Termen whom he married in 1891. They lived in Termen and had 12 children, six boys and six girls. Three of the boys emigrated: Johann (1893-1940), Dionys and Leopold (1899-1964). Johann emigrated to Detroit where he worked in a dairy and later went to Canada, Dionys joined him in Detroit in 1927, yet Johann died soon after his arrival; he was not married. Leopold emigrated to Canada, married there, and his four children – Arthur, Robert, Sylvia (deceased), and Margaret – still live in Canada.

Dionys had attended a horticultural school; he also worked in hotels and in the wine business of his uncle Leopold in Siders, possibly in the spring and fall (*Zwischensaison*) when hotels in the mountains were closed. For some years Dionys worked in a hotel in St. Moritz, in the Engadin, which is a long way from the Valais. He was a shoe cleaner, probably did garden work in the summer as well as other things. While working in St. Moritz he met Margrit Margelisch (1890-1970) from Betten, a village not far from Termen, who was a chambermaid there. They married in November 1926 when they were 32 and 36 years old; they often said that this was "their last chance to marry."

In May 1927, when Margrit was already pregnant with the twins, they emigrated to the United States; they told their children that there was no work for them in Switzerland. Their first impression on the other side of the Atlantic was the following: After arriving in New York, they went to eat in a restaurant and were very surprised when the waiter put glasses of water on their table. "What kind of country is this," they wondered," where you get only water and no wine?"


Margrit with twins

In Detroit Dionys first worked with his brother Johann in a dairy; in October of 1927, Margrit gave birth to twins, John and Janet. She often joked that she had gotten free passage on the boat for her two oldest children. Life was not easy for them since they did not know English; Dionys learned it first because he went to work every day while Margrit had her hands full with the twins at home. And in 1931 they had another son, Joseph Leopold. There also were no other German-speaking people in their neighborhood, and they had neither a phone nor a car. After working in the dairy, Dionys found work with the WPA fixing roads in the Detroit area.

In 1938 he took a job as caretaker of an estate in Grosse Pointe Farms, a wealthy suburb on the north side of Detroit. He had to take care of the garden and the flowers, mow the lawn, and be the chauffeur for the family. Joseph says that every Sunday afternoon at 5 p.m. he also had to walk the dog; thus if they wanted to go somewhere on Sundays, they always had to be home by 5 p.m. or leave so father could walk the dog.

The family's living quarters were above the garage. The children attended St. Paul's Catholic School where Dominican Sisters from Adrian, Michigan, taught. When Joseph's second grade class was asked to draw a picture of their parents' house, Joseph drew the "lovely house" of his father's employer. Soon afterward, the parents were at the school for some function, and the sister, who was his teacher, showed them the nice picture. Of course, then the truth came out, "and I cried and I cried. But the sister just enfolded me in her habit and consoled me." The parents of his class mates were mostly lawyers and doctors or other professionals. As a matter of fact, Henry Ford II lived just two houses down from the Imesch's, and once, when Joseph tried to build a snow man and was unable to roll the big snow ball back toward the house, he was helped by Ford and his wife who happened to pass by and observe him. When he was 9 years old, he began to peddle newspapers, and the Ford's gave him a tip of $5.00 at Christmas which to the boy at that time seemed like "a hundred dollars!"

In 1943 the family moved as his father had become the caretaker of the grounds of Sacred Heart Academy in Grosse Pointe Farms. The Academy was run by a French order, the Religious of the Sacred Heart, the "Madames"; they had a boarding and a day school for girls. The Imesch family shared a small house with another family who was employed there and had six children. At first, John and Joseph had a makeshift bedroom in the basement of the school, because there was only one bedroom available which was given to Janet. Subsequently another room was added for the Imesch boys. The Academy was right next to St. Paul's school, thus their way to school was very short.

Dionys Imesch had three Swiss friends in Detroit, and the four of them played *Jass* once a month smoking cigars and taking great pleasure in putting down a good *Trumpf* card with audible satisfaction. One of the three friends also was a houseman for a wealthy family, one was called Götti Hoffman (although he was not a godfather to the Imesch children), another Konrad Zellweger and Hermann Denzler. Mother Margrit yodeled at home, she would cook *Chnöpfli, Rösti* and *polenta*, the last one Joseph did not care for! And when the children had colds, she gave them some Forni's *Alpenkräuter Bitter* to drink. She also worked two days per week as cleaning and washer woman for wealthy families. Following the ancient Swiss tradition, St. Nicholas would throw candy and fruit through a doorway into the living room at Christmas, and at times the family would go to the Detroit *Schweizerhalle* where they saw Swiss gymnasts doing their pyramids. Yet the family did not socialize much; they did not have a car until the 1940s.

The Imesch family in Switzerland was very devout. Three of Dionys' sisters were religious: Therese had joined the Ursulines in Brig as Sr. Dionysia; Pauline had joined the Baldegg sisters as Sr. Amadea, and Rose the hospital sisters in Sitten as Sr. Canisia. Two of his uncles were priests: Johann and Dionys (1868-1947); the latter taught at the *Collegium* in Brig, was a historian and active in founding the *Geschichtsforschenden Verein des Oberwallis* [a society whose purpose it was to research the history of the Upper Valais]; he also was given the honorary rank of a Papal Chamberlain with the title of a Monsignor. Joseph knew about his aunts and uncles, and began to think about becoming a priest already in second grade. Once his father worked at Sacred Heart Academy; he served Mass every day at 6 a.m.

The Imesch Family of Detroit, Michigan

While the twins attended the Catholic High School in town, Joseph went to the high school at the seminary in Detroit. But he spent every summer with his family and worked at Sacred Heart Academy cutting lawns and chauffeuring the sisters to their doctors' appointments. His brother John joined the Navy after graduating from high school in 1945 and later went to law school. His sister Janet went to nursing school and became a nurse. They both married in 1950; John and his wife had seven children, Janet and husband four. Joseph said that he used to tell his brother John that, if the latter didn't have a son, he would leave the seminary, but luckily John's first three children were boys so the Imesch name would be carried on.

Joseph attended the college at Sacred Heart Seminary in Detroit seminary, and in 1953 was sent to study at the North American College in Rome. This allowed him to get to know his uncle Joseph Imesch (1900-1976) who was a captain in the Swiss Guard which he had joined in1924 and from which he retired in 1955. He was married to a Swiss woman, Elsi Fischbacher from Leissigen (Bernese Oberland). When Joseph went to see his uncle for the first time, he told the guard at the gate that he wanted to see Joseph Imesch. The guard asked him his name, and when he was told "Joseph Imesch," he replied, "no no, I want *your* name." He often visited his uncle in Rome, went on some outings with him and his wife, and also visited them later in Switzerland where Uncle Joseph worked for a while as wine salesman for the Imesch winery; he also had a chalet on the Thunersee.

During his time in Rome Joseph had opportunities to visit his relatives during the summer. While his parents always spoke German at home, he did not learn to speak it as a child though he understood everything. On his summer visits he learned more German, and he still peppers his speech to this day with a number of German expressions.

In December 1956 Joseph was ordained in Rome. This was a grand occasion: his parents came from Detroit, and a large contingent of his Swiss family came from the Valais. "My aunts were all in their *Walliser Tracht*" [their traditional costumes of the region]. His cousin Léon Imesch, a son of Leopold Imesch, who was an Augustinian priest in Saint-Maurice, was his assistant at his first Mass at the American Church of Santa Susanna in Rome; thus "everything was well prepared, and I did not have to be nervous!"

Joseph returned to Detroit in 1957; he first was an associate pastor at St. Charles parish in Detroit, and from 1959 to 1971 he was the secretary of Archbishop, and then Cardinal John Dearden of Detroit (1959-1980) who was also president of the United States Bishops Conference (1965-1970). In this capacity Joseph was able to attend the second session of the Second Vatican Council in Rome. During his years as secretary he helped out in parishes on Sundays, but he said, "I always wanted to be a pastor." In 1971 he was appointed pastor of Our Lady of Sorrows in Farmington, Michigan, a suburb of Detroit, but already in 1973 he was given additional responsibilities as Auxiliary Bishop of Detroit while still remaining a pastor. In 1977 he became responsible for the NW Vicariate of the Detroit Archdiocese, and in 1979 he was named Bishop of the Diocese of Joliet in Illinois where he is still serving.

Recorded from an interview in February 2005 by Marianne Burkhard OSB

3. Diverse Notes on Other Imesch Family Members

Origin of the name "Im Esch"

[The German word Esche denotes the ash tree; a hamlet called Esch probably was near a grove of ash trees.]

The family name IMESCH derives from the small hamlet "Esch" located in the municipality of Zeneggen (Visp county). The hamlet is first mentioned at the end of the 13th century.

The family and the hamlet must not be confused with the family "Im Eich" who were living in the hamlet Esch.

According to a census of 1798 the hamlet "Im Esch" had 6 residential and 14 other buildings.

Prelate Dr. Dionys IMESCH, canon in Sitten (1868-1947), took the time to collect all the informations related to the hamlet "Esch" and the name "Im Esch" from the historical documents of the Cathedral Chapter in Valeria and from the publications of the historian Jean Gremaud and the priest Josef Schaller.

From the Archives of Valeria

1299 W. Im messe (im Esche) appears as a witness in Visp on the 15 Ides of June (May 18).

1304 Petrus, the son of the late Konrad Im Esche of Visp is mentioned in a document dated 4 Idus Novembris (November 10).

1306 Cono Im Esche, whose wife is Salomea, his daughters Agnes and Agatha, a brother Matthaeus, Walter, a son Johannes im Esche are mentioned in a text dated October 31, 1306.

Publications of Jean Gremaud

In the publications of Jean Gremaud (1823-1897) which were printed in the *Documents relatifs à l'Histoire du Valais* and were [also] published in the *Mémoires et documents 1875* vol. XXIX ff. (Cf. Société d'Histoire de la Suisse Romande) we find:

1322 On August 24 Peter EIHOLZ grants the right to a tithe to the Deacon of Valeria on the mountain Sisiez (today called Sisetch) in the marsh [or field] and in the "Esche" [probably the hamlet Esche] (Gremaud n. 1146)

Coat of Arms of the Family IMESCH

In heraldry the coat of arms is read in the following manner:

> "on a blue background, on a green Dreiberg [there seems to be no English term for this; it denotes three round hills at the bottom of the coat-of-arms], a golden high cross between two green ash trees; in the chief [*Schildhaupt*] three golden six-pointed stars in a straight line." With the ash trees it is a partially 'speaking' coat of arms.

We find the coat of arms on a stove in the house of Marie IMESCH, a former teacher, in Zeneggen with the year 1771, and also in Mörel on a stove in the house of Ferdinand IMESCH, then on a stained glass window in the city hall of Sitten for Emil IMESCH who was mayor.

The parental home of the IMESCH Family

The parental home of the three brothers Amadeus, Polykarp and Peter, sons of Peter Josef (1761-1845) is the house in which the teacher Marie IMESCH (1904-2003) lived until recently.

On a stove on the lower floor we find the year 1771. The *binne* [perhaps the beam under the roof where inscriptions are often found] on the upper floor has the following letters:

I.H.S (Jesus hominum Salvator) MAR (Maria) IOS (J0SEF) I.I.E Jophann im Esch

I.O.H. Johanna Heinen
C.I.F Christian, Josef, Franz (?)

Also on the *binne* we see the beautiful verse:

Great effort and industry I have used
until this house was completed.
Thus I pray that you pray for me to God,
you who will live here after my death.
A.M.I.E. (Perhaps Anna Maria IM ESCH)

1339 On November 28 Johann von Embd grants the Deacon of Valeria the right to a tithe [in the hamlet] IM ESCHE. (Gremaud n. 1788)

1365 On August 1 Johann IM ESCH specifies to the chaplain of Visp how much money he has to collect. (Archives Flavien de Torrenté).

Johann, the son of the late Walther Im Esche (of the parish of Visp), recognizes the claim of Johannes Esper, administrator of Raron, and of Franciscus in Platea, as collector of taxes and incomes), the collection of due services.

1453 On November 3 Hans IM ESCH sells to the municipalities in Eggen and in the Wickenried a yearly interest of 8 shilling for 4 pounds; later he mortgages it with a half *Masschnitt* [perhaps *Madschnitt* = *Jucharte*, a Swiss term for a piece of land; it was not possible to find an English equivalent] im Esch which borders at the bottom to the path leading to the church. (Gremaud n. 3055)

Notes of Pastor Josef Schaller

1455 On January 7 Johannes IM ESCH and his daughter Elsa give a receipt for 5 pounds to Peter, son of Hanslini Jans or Hosenden of Wickenried.

1472 Jakob IM ESCH of St. Niklaus (valley) sells 4 *Mannsmahl* [cf. above, probably the same as *Masschnitt*] pasture on the field in St. Niklaus to Johann Egid IM ESCH [and] his brothers. (Archives Valeria von Schröter T. N. 156, p. 84).

1473 On February 3 Hans IM ESCH, of the parish of Visp, is mentioned in a document recorded in Visp. (Archives Valeria Min M. Steiger)

1506 Jakob im Esch is being questioned as a witness in St. Niklaus.

1585 On February 6 Johannes Gattlen, a/k/a IM ESCH, is mentioned as witness in a purchase contract (Archives Visperterminen nn. 23 and 24)

1612 On May 21 Martin IM ESCH is mentioned in a legal agreement (Text n. 2, Josef and Felix Abgottspon)

1723 On October 9 Johann, son of Heinrich IM ESCH of Eggen, sells a quarter of his sheep shed in Eisten.

1785 On June 20 an agreement is made between Josef Cretta of Ayer und the widow Ignatia IM ESCH and her children and Barbara for building a water main made of stone.

Amadeus IMESCH (1834 -1905)

Biography by Uncle Dionys [Prelate Imesch]

Amadeus, born on April 3 1834 in Zeneggen, was the oldest son of Peter Josef and Maria Zenhäusern. Of his childhood we only know that he probably learned the trade of tailor in Siders and that in the 1850s he practiced this trade with his brother Peter in Mörel. Then the two brothers opened a little shop in the same village.

On April 20 1857 he married Luise Venetz of Mörel and acquired the lower part of the house which stood on the right bank of the village creek. The couple had 13 children, three died early. He provided an excellent education for all his children; two became priests, two boys and two girls became teachers, three became carpenters and one became a farmer.

In 1855, still a bachelor, he bought the house of Luise Zumstein. This house had been built by Michel Ambord in 1691 and was first a restaurant.

Father Amadeus was well-versed in various trades: [as] carpenter, bricklayer, glazier and farmer. He knew how to take advantage of occasional opportunities for earning money honestly. No work was too hard for him when he had to earn money for his family. He even owned a lime kiln on the alpine pasture of Tunetsch. Emil, the son of Ferdinand, remembered that he, at the age of 5, walked with Amadeus up to the lime kiln. When industrial manufacturing of lime began, the kiln was no longer used.

At age 30, Amadeus acquired the right to be counted as a citizen [*Bürgerrecht*] of Filet although he lived in Mörel, and he paid sfr. 300.00 for it on May 6, 1875; together with the other new citizen Biderbost he paid for a drink and half a pound of cheese for all [citizens] above age 10; all citizens under age 10 received a quarter pound of cheese, and all, young and old, a pound of bread. 20 years later, on September 29, 1895, he was received as citizen of Mörel; for this he had to pay the high price of sfr. 1,800.00 and sfr. 200.00 for the omitted drink.

In the municipalities of Filet and Mörel he held several offices, i.e. that of judge in Filet from 1877-1879, and of land registry. In addition he was

the head of the orphans' office [*Waisenamt*] from 1877 to 1892. He was also one of the founders of the village band.

This biography would be incomplete without mentioning his activity as a mountain guide which we want to describe in the following manner.

This activity made it possible for him to insure a sufficient income for his large family. For long years he worked successfully as a mountain guide. This is well documented in his two small guide books; the first contains 65 testimonies [from people he guided] dated 1867-1891, the second 47 dated 1883-1891. Although only the smaller part of these testimonies come from climbs to the very high mountains, many have special importance because of the personalities who wrote the testimonies. We will mention three persons and give a short description of their significance in the world of science.

We will start with the testimony of the well-known British physicist ***John Tyndall*** (1820-1893) who is known for his theories about glaciers. He says: "On August 25, 1869, I climbed the Aletschhorn with Amadeus Imesch as my only companion. We reached the summit after 8 hours, including some rest stops, and we returned to the hotel at five o'clock in the afternoon. During this climb Imesch proved to be a strong, cautious, and willing guide who had much expertise. In him I found both a congenial companion and a trustworthy guide. Indeed, I have never spent a more contented day than the one spent with him. The weather was wonderful. Neither indisposition nor fatigue spoiled the joys of a mountain climb which, in my memory, has no equal." (Tyndall, Hotel Belalp, August 1869)

With regard to a second admirer of Amadeus Imesch, ***Coodlidge William Augustin Brevoort*** (1850-1926) we first want to quote the information found in the *Historisches Lexikon der Schweiz*: "He was born on August 28, 1850, in New York; between 1875 and 1898 he completed a series of remarkable mountain climbs; he wrote numerous monographs about the Alps. In 1893 he took up residence in Grindelwald where he died in 1926." The *Encyclopédie Larousse* says that he made several hundred mountain climbs in the high Alps among which there were at least ten first ascents. This well-known alpinist and writer Coodlidge says the following in Imesch's guide book : "Amadeus Imesch accompanied me on an excursion to the middle Aletsch glacier and also onto the Eggishorn by way of the Riederalp returning to Belalp by way of the great Aletsch glacier. For both excursions I want to express to Mr. Imesch my full satisfaction." (August 30, 1869)

The mountain guide received great praise from another famous person as well. ***Waldemar Kaden***, born in Germany, and since 1867 director and professor at the German School in Nepal, author of numerous travel books, visited our family in Mörel on a trip through Switzerland in 1875. He thanked father Amadeus for his guide work in the following way: "Amadeus Imesch from Mörel in the Upper Valais served as my guide for four weeks. Together we did the grand tour around the Jungfrau and separated only

today in Geneva. Imesch is not only an excellent and good guide and companion in the mountains, but above all an excellent human being whose loyalty and reliability deeply touched everyone, and especially all my friends. His zeal and readiness to serve knew no limits; in every situation he knows how to be helpful. Amadeus is the pearl of the Upper Valais and as such I am happy to recommend him to all my compatriots." (Geneva, September 3, 1875, Professor Wald[emar] Kaden)

Luise Venetz (1837 - 1914)

Wife of Amadeus Imesch, midwife (this biography was written by her son Dionys).

In the many years of her difficult duty she has helped to bring more than 1000 children into this world. In the winter months she often had to endure great strains and troubles when in bitter cold and high snow she had to go to the distant villages of Bitsch, Ried, Greich, Goppisberg and Bister. On such a trip in the 70s [probably the 1870s] she caught the black pox [*Schwarze Blattern*] which took her to the brink of the grave. She also proved to be a very good advisor in cases of slight illnesses with which she was often preoccupied. Together with her husband she saw to it that all her children received a good religious education. Her saintly uncle, Fr. Peter Anton Venetz, who was in the Capuchin monastery Wesemlin in Luzern, sent her many encouraging letters. [These letters are in the Archives of the Monastery Wesemlin in Luzern.]

The first Mass which her sons Johann and Dionys celebrated on the same day, October 5, 1890, in Mörel, was a great joy for her.

The death of her dear husband (1905) tore a deep wound into her heart as well as the death of her oldest daughter Katharina (1908) and her priest son Joahnn (1911). From then on she was sickly for the last three years of her life until God called her to himself on October 21, 1914.

In conclusion we want to quote the testimony of Dr. Ferdinand Mengis, who was professor of obstetrics for midwives. On March 10, 1878, he wrote: "Luise Imesch, wife of Amadeus, gained by her behavior as well as by her diligence and her progress full satisfaction in the course for midwives of 1868/69, and in her examination she earned great praise from the examiners who had been appointed by the high government."

Katharina Imesch (1858 -1908)

Katharina, born on February 5, 1858, as the oldest child, attended in 1873 and 1874 the teachers' college which, at that time, was held only during the summer months. Already during the winter of 1873/74 she taught school in Visp, from 1874-1876 and 1877-179 in Greich, and in the winter of 1876/77 in Bitsch and again from 1879 to 1900, a total of 21 years, and taught for a total of 27 years.

She was a deeply religious, exemplary teacher and was also very concerned about her family; she was a great help for her parents not only financially, but also with educating the many children. Unfortunately she fell ill soon after the father's death (1905) and died on May 8, 1908) in the hospital in Brig after serious surgery. She suffered from a stomach ailment. (Written by Fr. F. Schmidt)

Isidor Imesch (1861 - 1923)

Isidor, the oldest son of the family, became a teacher in 1879 and taught in Greich, Siders and Termen. Among his students was Victor Bieler, who later became bishop of Sitten.

In 1891 he married Marie Eyer from Termen und moved to this village. He was well-liked and had several offices in the municipality, he was on the parish council and also *Konsumverwalter* (probably administrator of a corporately owned grocery store). In 1919 he acquired the right to be a citizen in Termen.

He had 12 children, six boys and six girls. Three boys emigrated to America and Canada: Johann, Dionys and Leopold. Three girls became religious: Therese (Sr. Dionys) was an Ursuline in Brig, Pauline (Sr. Amadea) joined the teaching institute of Baldegg (Canton Luzern), and the youngest Rose (Sr. Canisia) was a hospital sister in Sitten.

One of the sons who emigrated, Dionys, settled in Detroit shortly after having married Margrit Mergelisch from Betten. After the birth of the twins John and Janet, they had a third child, Joseph Leopold (*1931) who was ordained a priest in Rome in 1956. As a young priest he was the chancellor for Cardinal Dearden in Detroit, but then wanted to be a pastor. In 1973 he was ordained as auxiliary bishop of Detroit, and after six years he was appointed Bishop of Joliet (Illinois), a diocese of almost 500,000 Catholics.

Another son of Isidor, Josef (1900-1976), was a member of the Swiss Guard in Rome. He began his career as a simple soldier on February 1, 1924, was promoted to sergeant and eventually to captain. He was honored five times with a medal for loyal service. He could not enjoy retirement for long. He found his last resting place in the cemetery of Leissigen (Bernese Oberland) next to his wife Elsa Fischbacher.

Ferdinand Imesch (1863 -1928)

Ferdinand, a carpenter by trade, leased the alpine meadows of the Seiler family in Gletsch during the First World War. In the municipality of Mörel he was given several offices. He was on the town council from 1896 to 1906, and was president of the council for six of those years. In 1906 he was elected as alternate county judge for the district of East Raron [the eastern part of Raron] and held this office until this judicial district was abolished in 1920.

He had the family coat of arms chiseled into a stove in his house.

Emil (1899-1972), his oldest son, was first a teacher in his home town, then taught at the German school in Sitten. He resigned from teaching in order to work at the Cantonal Bank of the Valais. For long years he was the main clerk of this institution. He rendered great service in the foundation of the Social Security Benefits for the employees of the bank and of the Canton. Eventually he was a member of the Board of Directors of the Cantonal Bank. In 1957 he was elected to the city council of Sitten, and was mayor from 1962 until his death in 1972. From 1965 to 1969 he was also a member of the *Grossrat* [Cantonal legislature] for the county of Sitten. In the military he was a captain and a quarter master.

His two sons, Ferdinand (Ferdy) and Hans Paul, born in 1928 and 1936, work in Bern and Sitten. Ferdy was initially a Instructing Officer in the *Vermittlunstruppen* [Communications troops. Instructing officers are among the few professional military in Switzerland], then colonel in the General Staff [highest staff officers since Switzerland has a general only in times of war] and also director of the Swiss Association for Sport. His brother Hans Paul is a dentist in Sitten.

Josef Imesch (1901-1983) worked in several trades, as carpenter, farmer, hairdresser and cook. From 1925 to 1931 he was in the USA. From 1940 to 1956 he was a town councilor in Mörel, for 2 years he was also alternate judge and for 4 years, from 1952 to 1956, judge. He died in 1983, a few months before his wife Edith, née Salzmann, died. He has three sons: Amadé is a sanitation engineer, Beat a medical doctor, and Peter an insurance salesman in Mörel.

Prelate Dr. Dionys Imesch (1868 - 1947)

[Prelate is a generic word for a priest of a rank just above pastor, probably the same as Monsignor]

This appreciation was written by Dom Léon Imesch.

On May 23, 1868, Amadeus and Luise Imesch had their seventh child, a son named Dionys. Like his brother Johann he attended the *Gymnasium* [college preparatory school] in the *Collegium* in Brig, and studied for the priesthood in the seminary of Sitten. He was ordained on September 28, 1890, by Bishop Adrien Jardinier; Johann had been ordained already on July 6. On October 5, both celebrated their first Mass in Mörel. In the same year Dionys began to study at the newly founded University in Fribourg where he received his bachelor of theology in the following spring. After his return he was appointed as rector of Mörel for a few months [seems to be a school, but it is not clear what kind], but before the year was out he became professor of history and Greek at the *Collegium* in Brig where he taught for 13 years. On November 12, 1904, he was appointed pastor of Naters which

had become almost a worker colony: this was the time when the Simplon tunnel was being built. After 14 years of hard and zealous work there he was appointed as a canon at the Cathedral of Sitten at the age of 49.

During his time as a teacher and archivist of the Cathedral Chapter [of Canons] he published numerous articles about the history of the Canton. Together with his brother Johann and with Rafael von Roten and Pastor Fedinand Schmid, Dionys Imesch paved the way to found the *Geschichtsforschenden Verein des Oberwallis* [Society for the Study of the History of the Upper Valais]. At his 75th birthday a *Festschrift* in his honor was published which includes a list of all his publications. At the same time he was named Honorary President of the society. From 1900 until 1945 he had been its president. He received a similar honor already in 1921 when he was awarded an honorary doctoral degree from the University of Fribourg.

He bequeathed all his published and edited studies as well as all the historical books [he owned] to the above-mentioned society in the Upper Valais. In recognition of his merits his portrait was hung in the *Collegium* in Brig. Since he had also written the history of the Ganter valley, a bronze plaque was erected on the road near Schallberg as a sign of the people's gratitude. The titles of all his publications were published in the 1943 issue of the *Blätter aus der Walliser Geschichte* [Studies in the History of the Valais].

For the circle of his family he wrote a biography of his great-uncle Peter Anton Venetz (1806-1888) who led a saintly life in the monastery of Wesemlin in Lucern. The many letters written by Father Peter Anton to his niece Luise, are now in the archives of this monastery.

In 1940 Dionys Imesch was named a Papal Chamberlain with the title of a Monsignor. In the same year he celebrated his Golden Jubilee in the chapel of Hohenflüe, surrounded by his two priest nephews, Paul and Leo. At this occasion he encouraged all his relatives to have a deep respect for the spirit of the family and to cultivate it carefully. After 1945 a heart ailment began to consume his energies.

On April 11, 1947, God called his faithful servant home. He found his last resting place in the old city cemetery of Sitten. According to the local newspaper almost 200 priests attended his funeral and accompanied his casket to the cemetery.

Leopold Imesch (1875 - 1936)

Like his oldest brother, Isidor Leopold became a teacher and taught in Mörel, and then in Siders where he took up permanent residence after marrying Marie-Antoinette de Chastonay. He resigned from teaching and founded a wine store which did very well under his management.

In Leopold's family there were 9 children. The oldest, Jeanne, died of serious burns on September 22, 1906. After her there were four girls and four boys.

In the military service Leopold reached the rank of colonel. He was the commander of the Upper Valais Battalion 89 from 1912 until 1918, that is during the entire WWI. His military unit contained six companies. Eventually he was the commander of the Infantry Regiment 18 and he ended his career as the military commander of Brig [*Waffenplatzkommandant*]. During the General Strike of 1918 he and his soldiers were in the city of Biel. [Biel had many watch factories and thus a large population of factory workers.]

In civil life, too, Leopold gained much merit: He was commander of the fire brigade, co-founder of the District Health Insurance of Siders; for long years he was the president of the church choir, together with Dr. Otto Gentinetta he was the co-founder of the Upper Valais Association [*Oberwalliser Verein*], and together with Pastor Pont he founded two commercial schools for boys and for girls. He was a member of the jury for several exhibits, including the National Exhibit [*Landesausstellung*] in Bern in the year of 1914. For many years he was also a member of the board of directors for the Cantonal Bank of the Valais [*Walliser Kantonalbank*].

In 1921 he was elected municipal councilor in Siders, he was Vice President from 1929 until 1936, and died on January 30, 1936.

His name is listed in the *Historical Lexicon of Switzerland [Historisches Lexikon]*.

After his death, one of his four sons, Henri, took over his wine business; he was also alternate judge in the municipality of Siders from 1936 to 1956, and judge from 1957 to 1968.

His sons Paul and Léon became monks and priests of the [Augustinian] Abbey of Saint-Maurice, Paul in 1932, Léon in 1936. Paul taught for four years at the *Collegium* of Saint-Maurice, 28 years in Porrentruy [in the Jura, now part of Canton of Jura]; after this he was a pastor until his death in 1978. Léon taught for ten years in Saint-Maurice, then was procurator of the Abbey from 1946 to 1964; then pastor in Salvan from 1964 to 1978; and subsequently he helped out in the parish of St-Séverin (Conthey). Karl, who worked as a medical doctor in Aarau, Geneva and Saint-Maurice, died at the age of 59 on September 15, 1967; like his brother Paul he was buried in the cemetery of Saint-Maurice.

Homage [apparently to Leopold Imesch]

"... your father was a brilliant tactician, an exemplary military leader, [demanding] Spartan rigor [from others] as well as from himself, loved by everyone, highly esteemed, a personality of exemplary modesty. When difficult decisions had to be made, he did not leave the responsibility to his subordinates alone, but rather took his part with great courage. With this strong man at the helm of his regiment each soldier would have given his life for his country...

In old friendship,

Charles-Albert Perrig"

Marie Imesch (1882 - 1965)

Of the 12 children of Amadeus and Luise Imesch, Katharina was the oldest and Marie the youngest; they were 24 years apart.

Marie was also a teacher, the fourth in the family who practiced this profession, first in Steinhaus in the municipality of Ernen. Later she joined Uncle Dionys in Sitten as his house keeper. She was asked to be a godmother over twenty times.

At the time of her brothers' priestly ordination she was only 8 years old. With another acquaintance she was the only one who was still alive when, after 50 years, they celebrated their Jubilee in the Chapel of Hohenflühen. She died a saintly death after a long stomach ailment on January 6, 1965, and was buried in the cemetery of her home municipality of Mörel.

Johann (Hans) Imesch (1916 -1996)

Hans, a son of Franz Imesch, who was born in 1916, had several municipal offices: he was municipal councilor of Filet from 1936 to 1948 and Council president. After he had moved to Mörel he was municipal councilor there from 1960 to 1972 and also Vice President. For two terms he also was an alternate member of the *Grossrat* [Cantonal legislature] for the District of East-Raron.

Translated by Marianne Burkhard OSB

Editor's Note:

The above article is a composite. The introduction was written by Marianne Burkhard of Peoria, Illinois, former President of the Swiss American Historical Society, based upon her interviews with Bishop Joseph Imesch of Joliet, Illinois. Parts Two and Three represent Marianne Burkhard's translations of letters and documents of the Imesch family given to her by Bishop Joseph Imesch.

Kammerman List

Preface

Having spent five years compiling our family genealogy, it was only natural for me to want to visit the villages, fields, and farms of Switzerland where my ancestors had lived. In September of 2000 my wife and I took our first vacation in years and went to Switzerland to explore the Kammermann and Hostettler family Heimats of Bowil and Guggisberg.

We flew to Bern, where we planned to spend two nights before venturing out into the countryside to explore the family Bauern (farm) Holzersfüh in Gemeinde Guggisberg. It was our first day in Bern, sightseeing and enjoying our first European experience. We entered the Cathedral in Bern awestruck by the beauty and history of such a place. To the left of the main alter there is a vestibule which contains a beautiful statue of the Pieta. It was while praying in front of the statue that I noticed the plaques on the walls surrounding the room. One plaque in particular caught my eye because it contained the name of two Kammermanns, so I photographed it. As we were leaving the Cathedral I asked the young attendant what the plaques were for. She not speaking English and I not speaking German or French, communication was difficult. The only words I could understand were 1798 and Napoleon.

Only after returning home and researching the year 1798 did I have any clue as to what I had seen that day in the Cathedral. Fortunately I was on the Picton Press mailing list when they published *Men of Bern: The 1798 Bürgerverzeichnisse of Canton Bern, Switzerland*, a genealogical treasure trove. I was so sorry that I had not photographed all of the plaques that day in the Cathedral. The only men who had not signed the oath of allegiance in 1798 were those who had fallen in the Battle for Bern against Napoleon's French troops. I vowed that if I ever returned, I would photograph and publish those names.

It was March of 2001 when we made plans to return to Switzerland. One of my main objectives was to photograph the plaques. We were scheduled to fly to Bern on September 12, 2001; a day spent holding our loved ones close and praying for those who were lost. The opportunity for us to travel to Switzerland did not come again until September of 2003. My wife and I were finally able to photograph *Dem Andenken Der Im Unglücks-jahr MDCCXCVIII. Für Das Vaterland Gefallenen* (In memory of the unfortunate - 1798. Killed for the Fatherland.)

It is my hope that this publication will help someone make a family connection in their genealogical research. I firmly believe that no one truly dies as long as there is someone who remembers.

John Eric Kammermann October 2005

Introduction

In the year 1797, Napoleon Bonaparte was well on his way in his ambitious plan to unite the world under one flag. The French flag. There was however one small obstacle jeopardizing his grand design. Switzerland. The oft-times cruel social divisions and prejudices of Switzerland's feudal society, The Swiss Eidgenossenschaft, founded before 1291, was one of Europe's last archaic governments. The strategic importance of the Swiss alpine passes could not be ignored: Direct trade from Paris to Milan flowed through these passes. The French Directorate, and Napoleon were not going to let Swiss neutrality stand in the way of their future conquests and the securing of these Alpine passes for France.

They first ordered Switzerland to revise their constitution and make it similar to that of the French. It was under this guise of helping Swiss Democrats revise their constitution that the French interfered with Swiss affairs in December 1797 and January 1798. Under the guise of helping to liberate the Swiss from their outmoded society and archaic government, the French invaded the Swiss Jura early in January of 1798. On January 28, 1798 a minor frontier border incident was all the reason French troops needed to enter the Bernese Vaud unopposed. Claiming they were upholding an old treaty, they marched victoriously into the capital of Lausanne, with an eye next on Bern and its overflowing treasury. The mountain passes and the liberation of the people were not the only things on the invaders' minds. The Swiss Diet, unsure how to react, debated amongst themselves whether to fight or negotiate. They did not know what kind of support the other Cantons would give under the Oath of Aargau, Canton Basel having defected in January 1798, followed by Canton Aargau and then Canton Thurgau. The Diet failing to act decisively, only the city of Bern mobilized for a defense.

On March 5, 1798, under the command of general-of-division Brune, the French mounted a two-pronged attack on the city of Bern; one force attacking from the North and the other force attacking from the South. The French forces consisted of over 50,000 well-armed and trained men. The Swiss numbered less than half of that, with 24,000 Bernese and an additional 4,900 men from other cantons. The Swiss were poorly motivated and poorly commanded. The battle at Neuenegg in the south was the only victory recorded for the Swiss that day. The northern French forces defeated the Swiss at Fraubrunnen and Grauholz, occupying the conquered city of Bern before nightfall. The city was looted and the treasury plundered of over 3,000,000 francs. In addition, the French Directorate imposed heavy reparations on the Swiss in excess of 6,000,000 francs plus the costs of the French Occupation. Napoleon ordered the money taken from Bern, which

the Directorate had placed at his disposal, transmitted to Toulon to help finance his Italian campaign. To his credit, Brune tried to maintain discipline and to prevent plundering, as indicated by his declaration to the army on March 9, 1798. Nevertheless, French troops committed numerous excesses against the Swiss people.

The bears in the Bärengraben or bear pit, a symbol for the city of Bern and a source of pride in the community since its founding in 1160 by Count Berchtold V of Zahringia, were captured and dragged from their dens. The Bernese nobility, aristocrats, and city leaders were tied to the backs of the bears and led down the streets to taunts and jeers. When the French were through humiliating the aristocrats, they killed all the bears, even the newborn cubs, in a final gesture of humiliation to the Swiss people, marking the fall of the ancient regime. One newborn cub managed to stay hidden in the back of the den. The cub was later found and treated but finally succumbed, being too young. Its small body was stuffed and is on display to this day in the Swiss Historical Museum in Bern.

Napoleon's new Helvetic Republic did away with cantonal autonomy and as in France it gave power to the people through a centralized five-man executive branch. The new constitution replaced the archaic group of communities, privileges, and mutual distrust that the Swiss had lived under since the Middle Ages. Napoleon failed to take into consideration the cultural history and boundaries of the Swiss. Also Switzerland would soon become a central battleground for skirmishes and battles between the French and her enemies, with troops from both sides raiding Swiss farms for their supplies. Finally in 1802 the Swiss had had enough. Centuries of feudal divisions ended when the Swiss came together, Catholic, Protestant, liberal, conservative, rich and poor, and rejected Napoleon's constitution. A series of skirmishes and rebellions broke out, mostly in the mountain cantons where Landsgemeinde and revolutionary rights had been held for over 500 years. At the battle of Nidwalden, 400 Swiss were killed, nearly one-third of them women and children. Only after the loss of more than 2,000 French soldiers was the rebellion put down. Under pressure from a united Swiss front, the French were forced to withdraw in 1802. Civil war immediately broke out, causing Napoleon to step in as mediator. Under Napoleon's mediation the Swiss came up with their own constitution, which restored cantonal autonomy and laid the foundation for direct democracy at the national level. Switzerland had its first nationwide referendum. A nation was born.

Publisher's Note

This list of all Bernese troops killed during the Napoleonic invasion of Switzerland in the first week of March 1798 is quite an astounding

document. In it you will find the names of every one of the 704 Bernese killed by the French during their invasion of Canton Bern March 2-5: a total of 19 officers and 688 enlisted men (including several women and one "Volontär"). Each man is listed with his Heimat (the nine Landsassen listed, men who at that time had no Heimat, are simply listed as Landsass), and thus genealogists can relatively easily determine where these individuals fit into the various Bernese family trees.

This was a staggering loss for Canton Bern. Perhaps 704 military dead doesn't seem like a 'staggering' loss to you. Look at it this way; it was 0.3% of Canton Bern's total population of about 250,000 at the time and 1.3% of the roughly 55,000 Bernese men of military age of 20 and under 69. Put another way, the loss of these 704 soldiers in Canton Bern is equivalent to America, with its current population of close to 300 million, having 900,000 soldiers killed in just four days of fighting.

You can learn all the names of the 55,000 Bernese men of military age who survived the French invasion, together with a myriad of other details on each of them, by reading *Men of Bern: The 1798 Bürgerverzeichnisse of Canton Bern* (Picton Press, 3 vol., 1999). The Introduction gives a good overview of the invasion and the history of Switzerland for that period.

An interesting sidelight to the 1798 invasion and Switzerland's crushing defeat is that most of the various Bernese Gemeinden decided not to include these battle deaths in their voluminous, detailed, and otherwise generally complete death records. Discretion is the better part of valor: perhaps they felt that it would be dangerous for the French conquerors to know which Gemeinden fought the invasion the hardest and lost the most men. In one case I found that a minister found a way to record a battle death in a rather safe manner. For Rohrbach And., v. Wattenwyl (i.e. Andreas Rohrbach with Heimatrecht in Wattenwil), the minister of Wattenwil did not enter Andreas Rohrbach's death in the Gemeinde death records but instead discretely put next to Andreas' 26 Jan 1777 baptismal record the notation O G [presumably for obit Giel, i.e. died as a young man]. Since these battle deaths are generally not recorded in the various Gemeinde death records, this list will help you fill holes in many genealogies.

We have made only a few changes made in this list from wording of the original monuments as transcribed by Mr. Kammermann. The first is that the abbreviation "v." for von when it occurs in surnames and also when it is given before the person's Heimat has been expanded to 'von'. In the former case it is simply part of the surname while in the latter case it indicates that the person held Heimatrecht in the Gemeinde listed following the 'von'. Hence "v. Allmen, Peter, v. Lauterbrunnen" means that the man's surname is von Allmen and that he held Heimatrecht in Gemeinde Lauterbrunnen in Canton Bern. The abbreviation 'B.' in the names of Gemeinden has been expanded to 'bey' - although the current spelling is 'bei'.The third change is that we have alphabetized all surnames beginning with 'von' under the

letter'v', while the original monuments index them the old-fashioned way, under the second word of the name: in this case under Allmen.

Note that Carl Ludwig von Erlach held Heimatrecht in both Hindelbank and Bern, and that two of the officers, C. May and von Graffenried, held Heimatrecht in Bern but were living (i.e. 'zu') elsewhere. The multitude of abbreviations of given names have been left unchanged as there is no way to be certain whether "Chr." stands for Christian or Christen; Joh. stands for Johann or Johannes; etc. However, most of the abbreviations are rather obvious: Jak. for Jakob, Andr. for Andreas, etc. The original list is entirely in capital letters; we have changed them to initial capitals both for clarity in reading and to save space. A number of the Gemeinden now have slightly different spellings: Rüggisberg is now spelled Rüeggisberg, Rugsau is now spelled Rüegsau, the term 'bey' (as in Hasle bey Burgdorf) is now spelled 'bei' and sometimes was abbreviated 'b.' in the original monument, the town name ending -wyl is now spelled -wil, etc.

Lewis Bunker Rohrbach, CG

DEM ANDENKEN DER IM UNGLÜCKS-JAHR MDCCXCVIII. FÜR DAS VATERLAND GEFALLENEN.

von Erlach, Carl Ludwig, von Hindelbank, von Bern, General
von Ryhiner, Carl, von Bern, Oberst
Stettler, Carl, von Bern, Oberst
von Crousaz, von Bern, Oberst
von Gumoens, Sigm, Em., von Bern, Oberstlt
May, C., zu Theirachern, von Bern, Oberstlt
von Werdt, Albr., von Bern, Hptm
von Graffenried, zu Vilars, von Bern, Hptm
Bucher, Carl Lud., von Bern, Hptm
Gruber, Em., von Bern, Hptm
von Graffenried, Bernh., von Bern, Hptm
May, Carl Lud., von Bern, Hptm
Blank, Nikl., von Bolligen, Hptm
Gatschet, Dan., von Bern, Lieut
Lombach, Sigm., von Bern, Lieut
Imhoff, Joh. Jak., von Zofingen, Lieut
Oberli, Sam., von Rüderswyl, Lieut
Schori, Nikl., von Dampfwyl, Lt
Siegenthaler, Peter, von Schangnau, Lt

[names and Heimats of the 685 soldiers killed, including two women, follow]

Adam, Hans, von N.-wichtrach
Aeberhard, Nikl., von Jegenstorf
Aeberhard, Bend., von Graffenried
Aeberhard, Hans, von Zuzwyl
Aeberhard, Adam, von Graffenried
Aebi, Chr., von Heimiswyl
Aerni, Bend., von Bolligen
Aeschbacher, Joh. Jak., von Heimswyl
Aeschbacher, Christ., von Trachselwald
Aeschlimann, Hans. Ulr., von Rugsau

Aeschlimann, Hans, von Rüderswyl
Akermann, Andr., Landsass
Allemann, Hans Ulr., von Farneren
Althauss, Hans, von Hochstetten
Amacher, Hans, von Bönigen
Antener, Joh. Jak., von Orpund
Arm, Hans, von Landiswyl
Arm, Chr., von Biglen
Bachmann, Joh., von Rothenbach
Bachmann, Gottl., von Buchholterberg
Bachmann, Chr., von Brenzikofen
Balsiger, Hans, von Bümplitz
Balsiger, Joh., von Köniz
Balzli, Hans, von Bolligen
Banwart, Chr., von Bümplitz
Barben, Jakob, von Spietz
Barthlome, Nik., von München-buchsee
Bärtmann, Sam., von Meykirch
Baumann, Nikl., Landsass
Baumann, Hans, von Wyleroltigen
Baumann, Joh. Jak., von Thun
Baumgarter, Wilh., von Trub
Baumgarter, Chr., von Trub
Baumgartner, Chr., von Bremgarten
Baur, Jos., Landsass
Beiner, Nikl., von Schüpten
Benz, Chr., von Arni
Berger, Joh., von Inner-birrmoos
Betschen, Peter, von Scharnachthal
Beutler, Peter, von Buchholterberg
Beutler, Nikl., von Buchholterberg
Beutler, Peter, von Buchholterberg
Beutler, Chr., von Buchholterberg
Bhend, Hans, von Beatenberg
Bichsel, Joh., von Hasle bey Burgdorf
Bigler, Hans, von Muri
Bigler, Sam., von Muri
Bigler, Bend., von Vielbringen
Bigler, Chr., von Vielbringen
Bigler, Joh., von Vielbringen
Bigler, Franz, von Vielbringen
Bigler, Chr., von Vielbringen
Bigler, Joh., von Vielbringen
Bigler, Joh., von Enggistein
Bind, Jak., von Ober-önz
Bind, Jak., von Ober-önz
Bind, Jak., von Ober-önz
Blank, Nikl., von Bolligen
Blaser, Sam., von Lauperswyl
Blaser, Peter, von Langnau
Blaser, Sam., von Lauperswyl
Blaser, Joh., von Lauperswyl
Böhlen, Chr., von Rüggisberg
Bohren, Anton, von Sanen
Bolzli, Hans, von Hasle bey Burgdorf
Boss, Chr., von Sigriswyl
Bossard, Chr., von Zaziwyl
Bracher, Chr., von Radelfingen
Bracher, Chr., von Radelfingen
Brand, Peter, von Ruderswyl
Brand, Casp., von Bügsau
Brawand, Chr., von Itramen
Brawand, Chr., von Scheidegg
Brawand, Chr., von Matten
Brechbühl, Bend., von Lauperswyl
Brechbühl, Bend., von Lauperswyl
Brudermann, Conr., von Rumisberg
Bruni, Jak., von Ober-stocken
Brunner, Conr., von Lauterbrunnen
Brunner, Jak., von Adelboden
Bucher, Bend., von Schüpten
Burgener, Ulr., von Scheidegg
Bürki, Joh., von Worb
Bürki, Bend., von Worb
Burri, Andr., von Krauchthal
Bütikofer, Nikl., von Zuzwyl
Bütikofer, Jak., von Ersigen
Bütikofer, Sam., von Kernenried
Büttler, Bend., von Walkringen
Büzberger, Andr., von Kleinholz
Christen, Durs, von Hasle
Christener, Nikl., von Walkringen
Christener, Jak., von Landiswil
Dällenbach, Chr., von Otterbach
Dällenbach, Bend., von Oberthal
Danz, Abr., von Gross-affoltern
Dennler, Jos., von Untersteckholz
Dietschi, Nikl., von Heimiswyl
Dik, Hans, von Gurbrü
Dik, Bend., von Ezelkofen

Domi, Hans, von Oberburg
Dreyer, Sam., von Trub
Dürig, Jak., von Hettiswyl
Eberhardt, Nikl., von Büren zum Hof
Eggen, Anton, von Nieder-stocken
Egger, Chr., von Bussalp
Eggimann, Isaac, von Sumiswald
Eggimann, Dan., von Sumiswald
Eggli, Abr., von Meyenried
Eichenberger, Hans. Ulr., von Trub
Ellenberg, David, von Muri
Ellenberger, Peter, von Landiswyl
Ellenberger, Mich., von Rüdiswyl
Ellenberger, Hans. Ulr., von Rüdiswyl
Engel, Hans., von Bowyl
Etter, Chr., von Bargen
Fahrni, Joh., von Schwarzeneck
Falb, Peter, von Walkringen
Farschon, Joh., Rud., von Büren
Felber, Jakob, von Nieder-bipp
Felber, Ursus, von Nieder-bipp
Felber, Jakob, von Nieder-bipp
Feutz, Jakob, von G'steigwyler
Fischer, Franz, von Zofingen
Flühmann, Chr., von Neueneck
Flühmann, Bend., von Neueneck
Flühmann, Sam., von Neueneck
Flükiger, Joh., von Rohrbach
Frank, Sam., Rudolf, von Langnau.
Franz, Peter, von Walkringen
Freudiger, Conr., von Nieder-bipp
Freudiger, Conr., von Nieder-bipp
Frey, Nikl., von Orpund
Frey, Bend., von Hettiswyl
Freyburghaus, Hans, von Neueneck
Freyburghaus, Hans, von Freyburghaus
Freyburghaus, Rud., von Neueneck
Freyburghaus, Bend.,von Neueneck
Friedrich, Nikl., von Rapperswyl
Fruting, Sam., von Bern, Volontär
Fund, Hans, von Nieder Bipp
Fund, Hans, von Nieder Bipp
Furimann, Seb., von Durrenroth
G'feller, Nikl., von Rüfenacht
G'feller, Chr., von Vechingen
Gammeter, Peter, von Lützelflüh
Gäumann, Chr., von Vechingen
Gehri, Hans, von Lopsigen
Geissbühler, Hans, von Lauperswyl
Geissbühler, Hans, von Lauperswyl
Gerber, Nikl., von Langnau
Gerber, Nikl., von Langnau
Gerber, Ulr., von Sumiswald
Gerber, Hans, von Arni
Gerber, Hans, von Langnau
Gertsch, Peter, von Lauterbrunnen
Gillomen, Margar., des Obigen Ehefrau
Gillomen, Joh., von Langnau
Glauser, Peter, von Krauchtal
Glauser, Mich., von Krauchtal
Gosteli, Hans, von Bolligen
Gosteli, Bend., von Bolligen
Gosteli, Nikl., von Bolligen
Gosteli, Mart., von Bolligen
Gosteli, Chr., von Wohlen
Gosteli, Bend., von Bollingen
Graf, Chr., von Lauterbrunnen
Grieb, Joh., von Burgdorf
Grossenbacher, Hans, von Hasle bey Burgdorf
Grossenbacher, Hans, von Hasle bey Burgdorf
Grunder, Hans, von Vechingen
Grunder, Joh., von Burgdorf
Grunder, Jakob, von Burgdorf
Gruner, Sam., von Meykirch
Gygi, Chr., von Kappellen bey Aarberg
Gygi, Heinr., von Kappellen bey Aarberg
Haas, Georg., von Gümminen
Häberli, Joh., von Müchenbuchsee
Häberli, Nikl., von Müchenbuchsee
Häberli, Nikl., von Deisswyl
Hager, David, von Äfligen
Haldimann, Hans, von Bowyl
Haldimann, Nikl., von Bowyl
Haller, Sam., von Zofingen
Häni, Joh. Ulr., von Leuzigen
Hänni, Bernh., von Gurzelen

Hänni, Nikl., von Seewyl
Hänni, Joh., von Köniz
Hänni, Chr., von Köniz
Hänni, Abr., von Wengi
Hasler, Joh., von Rütschelen
Häsler, Joh., von G'steigwyler
Haueter, Hans, von Äschlen
Haueter, Chr., von Zollikofen
Hauser, Sam., von Rüfenacht
Hauswirth, Peter, von Sanen
Hauswirth, Jakob, von Sanen
Heer, Friedr., von Madretsch
Heimberg, Nikl., von Landerswyl
Herren, Chr., von Neueneck
Herren, Joh., von Mühlenberg
Herren, Peter, von Neueneck
Herren Barthol., von Neueneck
Hiltbrand, Chr., von Ditmtigen
Hirni, Hans, von Aarmuhle
Hirsbrunner, Hans Ulr., von Sumiswald
Hirt, Dan., von Worb
Hodel, Peter, von Konolfingen
Hodel, Hans, von Stalden
Hofer, Jakob, von Arni
Hofer, Andr., von Walkringen
Hofer, Joh., Landsass
Hofer, Bend., von Walkringen
Hofer, Jakob, von Arni
Hofer, Chr., von Walkringen
Hofer, Peter, von Walkringen
Hofmann, Joh., von Oberburg
Hofmann, David, von Oberburg
Hofmann, Nikl., von Oberburg
Hofmann, Peter., von Lattrigen
Hofmann, Nikl., von Oberburg
Hofstetter, Chr., von Langnau
Holzer, Nikl., von Moosseedorf
Holzer, Nikl., von Zuzwyl
Hönger, Peter, von Roggwil
Horisperger, Casp., von Rohrbach
Hubacher, Joh., Krauchthal
Hubacher, Jakob, von Mötswyl
Hubler, Joh., von Bätterkinden
Hügli, Joh., von Seedorf
Hügli, Joh., von Seedorf
Hühnli, Ulr., von Unter-langeneck
Hurni, Hans, von Gurbrü
Hurni, Sam., von Gurbrü
Hürzeler, Hans, von Aarwangen
Hutmacher, Nikl., von Gysenstein
Hutzli, Nikl., von Sanen
Hutzli, Joh. Jakob, von Sanen
Imboden, Friedr., von Unterseen
Imhoof, Nikl., von Bollingen
Ingold, Chr., von Inkwyl
Iseli, Jakob, von Grafenried
Jaberg, Ant., von Ober-diessbach
Jaberg, Chr., von Radelfingen
Jaberg, Nikl., von Radelfingen
Jenk, Hans, von Bümplitz
Jenni, Hans, von Nieder-hüningen
Joost, Chr., von Eggiwyl
Joss, Hans, von Worb
Joss, Bend., von Oberburg
Joss, Peter, von Oberburg
Joss, Chr., von Worb
Jost, Andr., von Wyningen
Juker, Bend., von Bollingen
Juker, Hans, von Bollingen
Juker, Sam., von Bollingen
Juker, Nikl., von Bollingen
Jüni, Hans, von Mühlenburg
Kähr, Hans, Ulr., von Lauperswyl
Kähr, Hans, Ulr., von Lauperswyl
Kammermann, Joh., von Vechingen
Kammermann, Hans, von Bowyl
Käsermann, Joh., von Bätterkinden
Kaufmann, Chr., von Grindelwald
Kayser, Joh., von Leuzigen
Kehrwand, Friedr., von Aarberg
Keller, Sam., von Biberen
Kiburger, Chr., von Worb
Kiener, Nikl., von Höchstetten
Kiener, Joh., von Muri
Kipfer, Nikl., von Rüderswyl
Klopfstein, Sam., von Laupen
Klopfstein, Joh., Rud., von Laupen
Knörri, Jakob, von Urtenen
Knörri, Hans, von Urtenen
Kobi, Nikl., von Seewyl
Kobi, Joh., von Münchenbuchsee

Kobi, Bend., von Münchenbuchsee
Kocher, Bend., von Bütigen
Köchli, Barthol., von Bärfischenhaus
Köchli, Hans, von Bärfischenhaus
Köchli, Jakob, von Mühlenburg
Lüthi, Nikl., von Rüderswyl
Kohler, Casp., von Sumiswald
Kohler, Hans, Ulr., von Landiswyl
Kolb, Sam., Landsass
König, Bend., von Wiggiswyl
König, Joh., von Deisswyl
König, Joh., von Hilterfingen
Kormann, Nikl., von Bümplitz
Kramer, Hans, Jakob, von Sumiswald
Kräuchi, Jos., von Bäriswyl
Kropfli, Sam., von G'steig bey Sanen
Krummen, Hans, von Mühlenberg
Küffer, Ulr., von Ober-steckholz
Kunz, Hans, von Jegenstorf
Kunz, Chr., von Bollingen
Kunz, Hans, von Grafenried
Kunz, Jakob, von Mülchi
Kunz, Joh., von Lyssach
Kunz, Durs, von Bollingen
Künzi, Chr., von Wyl
Künzi, Nikl., von Wyl
Kurz, Jakob, von Adelboden
Läderach, Hans, von Trimstein
Läderach, Joh., von Worb
Läderach, Nikl., von Mirchel
Landolf, Jakob, von Büren zum Hof
Landolf, Hans, von Büren zum Hof
Landolf, Joh., von Büren zum Hof
Landolf, Hans, von Fraubrunnen
Landolf, Bend., von Büren zum Hof
Landolf, Hans, von Fraubrunnen
Lauper, Franz, von Seedorf
Läuss, Nikl., von Ober-diessbach
Ledermann, Hans, von Lauperswyl
Ledermann, Joh., von Lauperswyl
Ledermann, Chr., von Lauperswyl
Lehmann, Hans, von Arni
Lehmann, Chr., von Lauperswyl
Lehmann, Joh., von Ober-diesbach
Lehmann, Chr., von Lauperswyl
Lehnen, Dan., von Twann
Lehner, Hans, von Buchholterberg
Leiser, Albr., von Geissenberg
Lempen, Joh., von St.steffan
Lenepp, Hans, von Aarwangen
Lerch, Hans, von Rügsau
Leu, Jakob, von Rohrbach
Leu, Jakob, von Rohrbach
Leuenberger, Chr., von Lauperswyl
Leuenberger, Joh., von Trachselwald
Liechti, Chr., von Heimiswyl
Liechti, Nikl., von Landiswyl
Locher, Hans, von Hasle bey Burgdorf
Löffel, Chr., von Worben
Lohri, Hans, von Tägertschi
Lüdi, Nikl., von Bollingen
Luginbühl, Nikl., von Bowyl
Luginbühl, Joh., von Äschi
Luginbühl, Chr., von Oberthal
Lüthi, Chr., von Lützelflüh
Lüthi, Nikl., von Lauperswyl
Lüthi, Nikl., von Lauperswyl
Lüthi, Chr., von Lauperswyl
Lüthi, Chr., von Lauperswyl
Lüthi, Chr., von Langnau
Lüthi, Joh., von Signau
Lüthi, Chr., von Lützelflüh
Lüthi, Nikl., von Rüderswyl
Mader, Chr., von Neueneck
Marbach, Dan., von Ober-wichtracht
Mariz, Joh., von Burgdorf
Marthaler, Chr., von Bümplitz
Marti, Joh., von Sumiswald
Marti, Jakob, von Fraubrunnen
Marti, Jakob Franz, von Mullen bey Erlach
Marti, Hans, von Rüggisberg
Marti, Jos., von Mülchi
Marti, Ulr., von Trachselwald
Mathis, Andr., von Ober-önz
Mauerhofer, Nikl., von Langnau
Maurer, Peter, von Walkringen
Mäusli, Hans, von Höchstetten
Maybacher, Hans, von Dürrenroth
Messer, Hans, von Ezelkofen
Messer, Friedr., von Schalunen

Messerli, Joh. Jakob, von Poleren
Messerli, Chr., von Kaufdorf
Meyer, Chr., von Grindelwald
Meyer, Mich., Landsass
Meyer, Chr., von Grindelwald
Michel, Hans, von Neueneck
Moosmann, Adam, von Wyleroltigen
Möri, Bend., von Hermrigen
Moser, Chr., von Biglen
Moser, Ulr., von Arni
Moser, Hans, von Zäziwyl
Moser, Jakob, von Ruchwyl
Moser, Peter, von Biglen
Moser, Chr., von Scheideck
Mühlemann, Chr., von Bönigen
Mühlemann, Hans, von Bönigen
Müller, Peter, von Lauterbrunnen
Müller, Joh, von Zollikofen
Müller, Peter, von Eggiwyl
Mutti, Bend., von Bolligen
Nacht, Hans Ulr., von Rügsau
Neuenschwander, Mich., von Langnau
Niederhauser, And., von Eriswyl
Niklaus, Hans, von Münchringen
Niklaus, Chr., von Münchringen
Niklaus, Jakob, von Jegenstorf
Niklaus, Bend., von Zauggenried
Nyffenegger, Chr., von Signau
Öhrli, Caspar, von Aarmühle
Oppliger, Chr., von Sigriswyl
Oppliger, Bend., von Heimiswyl
Otz, Anton, von Vechingen
Peter, Jakob, von Radelfingen
Pfäffli, Peter, von Bowyl
Pfund, Hans, von Ägerten.
Lüthi, Chr., von Langnau
Ramseyer, Ulr., von Oppligen
Räz, Hans, von Rapperswyl
Reinhard, Ulr., von Rüsau
Reist, Chr., Oberburg
Remund, Hans, von Mühlenberg
Renfer, Anna, von Langnau
Reusser, Chr., von Steffisburg
Reusser, Chr., von Steffisburg
Riben, Jakob, von Gutenbrunnen
Rindlispacher, Christ., von Lutzelflüh
Risen, Sam., von Rüggisberg
Rohrbach, And., von Wattenwyl
Rohrer, Sam., von Bolligen
Rösch, Chr., Landsass
Rösch, Chr., Landsass
Rösch, Chr., von Ersingen
Rösti, Chr., von Adelboden
Roth, Andr., von Worb
Roth, Abr., von Saxeten
Roth, Chr., von Itramen
Roth, Chr., von Mirchel
Röthlisberger, Ulr., von Langnau
Rubi, Hans, von Oppligen
Rubi, Hans, von Scharnachtal
Rubi, Ulr., von Bussalp
Ruchti, Abr., von Büren
Ruchti, Friedr., von Homberg
Rüfenacht, Bend., von Meykirch
Rüfenacht, Hans, von Walkringen
Rüfenacht, Chr., von Hasle bey Burgdorf
Rüfenacht, Joh., von Rüfenacht
Rüfenacht, Nikl., von Walkringen
Rüfenacht, Joh., von Walkringen
Rufer, Bend., von Urtenen
Rupp, Joh., von Hindelbank
Rychen, Melc., von Hasle bey Frutigen
Rychener, Hans, von Signau
Ryser, Hans, von Sumiswald
Ryser, Gideon, von Neider-önz
Sahli, Chr., von Frauenkappellen
Sahli, Hans, von Wohlen
Salvisberg, Sam., von Mühlenberg
Salvisberg, Chr., von Mühlenberg
Salzmann, Hans, von Oberthal
Sarbach, Chr., von Ägerten bey Frutigen
Schädeli, Jos., von Bremgarten
Schädeli, Joh., von Langnau
Schaffroth, Sam., von Röthenbach
Schaffroth, Sam., von Röthenbach
Schaller, Hans, von Walkringen
Schaller, Chr., von Walkringen
Schär, Hans, von Röthenbach
Schär, Joh., von Walterswyl

Schärer, Joh., von Könitz
Scheller, Hans, von Aarmühle
Schenk, Hans, von Signau
Schenk, Hans, von Signau
Schenk, Hans, von Signau
Schenk, Sam., von Herbligen
Schenk, Ulr., von Buchholterberg
Schenk, Ulr., von Röthenbach
Schenk, Chr., von Langnau
Scherler, Adam, von Radelfingen
Schertenleib, Dan., von Krauchenthal
Schertenleib, Peter, von Heimiswyl
Schertenleib, Ulr., von Heimiswyl
Schertenleib, Nikl., von Vechingen
Scheuner, Hans, von Bümplitz
Schilt, Chr., von Bönigen
Schindler, Bend., von Röthenbach
Schlapbach, Chr., von Ober-langneck
Schlapbach, Peter, von Ober-langneck
Schlatter, Chr., von Gysenstein
Schlatter, Hans, von Gysenstein
Schleggel, Joh., von G'steigwyler
Schlupp, Joh., von Lengnau
Schlupp, Hans, von Rütti
Schlupp, Joh., von Lengnau
Schlupp, Sam., von Lengnau
Schlupp, Hans, von Gross-affoltern
Schlupp, Hans, von Lengnau
Schmid, Gilg., von Adelboden
Schmid, Bend., von Bollingen
Schmid, Hans, von Adelboden
Schmid, Bend., von Bollingen
Schmid, Joh., von Adelboden
Schmid, Jakob, von Walkringen
Schmid, Joh., von Worb
Schmid, Chr., von Bümplitz
Schmied, Hans, von Mühlenberg
Schmitz, Gottf., von Fraubrunnen
Schmoker, Ulr., von Beatenberg
Schmoker, Chr., von Habkeren
Schmuz, Anton, von Vechingen
Schmuz, Hans, von Vechingen
Schneeberger, Friedr., Landsass
Schneider, Joh., von Büren zum Hof
Schneider, Nikl., von Büren zum Hof
Schneider, Hans, von Diessbach
Schneider, Gottl., von Buchholterberg
Schneider, Bend., von Nieder-wichtrach
Schneider, Hans, von Büren zum Hof
Schneider, Hans, von Arni
Schneider, Peter, von Trub
Schneider, Bend., von Bümplitz
Schneitter, Jak., von Fahrni bey Steffisburg
Schönenberger, Sam., von Kriechenwyl
Schöni, Mich., von Sumiswald
Schopfer, Peter, von G'steig bey Sanen
Schori, Abr., von Dampfwyl
Schreyer, Franz, von Gals
Schreyer, Hans, von Brüggelbach
Schuler, Chr., von Meikirch
Schüpbach, Nikl., von Landiswyl
Schüpbach, Chr., von Biglen
Schüpbach, Chr., von Wyl
Schüpbach, Chr., von Wyl
Schürch, Bend., von Heimiswyl
Schürch, Conr., von Heimiswyl
Schüz, Joh., von Kirchlindach
Schüz, Chr., von Sumiswald
Schüz, Joh., von Heimiswyl
Schwab, Joh., von Wyleboltigen
Schwarz, Hans, von Langnau
Schwarzentrub, Christ., von Oberthal
Schweizer, Hans, von Bümpliz
Seiler, Friedr., von Bönigen
Seiler, Peter, von Bönigen
Seiler, Hans, von Walkringen
Siegenthaler, Andr., von Arni
Siegenthaler, Nikl., von Arni
Siegenthaler, Nikl., von Arni
Siegfried, Chr., von Höchstetten
Siegfried, Ulr., von Arni
Siegfried, Hans, von Arni
Spahr, Nikl., von Langnau
Stalder, Jakob, von Lützelflüh
Stalder,ulr., von Rügsau
Star, Nikl., von Brenzikofen
Staub, Hans, von Wohlen
Stauffer, Joh., von Rütti

Stauffer, Chr., von Landiswyl
Stauffer, David, von Röthenbach
Stauffer, Hans, von Rütti
Steck, Bend., von Walkringen
Steffen, Sam., von Lengnau
Steffen, Ulr., von Dürrenroth
Steiner, Chr., von Signau
Steiner, Jakob, von Inner-birrmoos
Steinmann, Chr., von Oberthal
Steinmann, Nikl., von Gysenstein
Stempfli, Hans, von Bollingen
Sterchi, Hans, von Walkringen
Sterchi, Ulr., von Matten
Sterchi, Hans, von Rügsau
Stettler, Chr., von Oberthal
Stettler, Oswald, von Walkringen
Stettler, Chr., von Walkringen
Stettler, Joh., von Walkringen
Stettler, Bend., von Bollingen
Stöckli, Ulr., von Guggisberg
Stöckli, Hans, von Bieberen
Strahm, Sam., von Äschlen
Strauchen, Jakob, von Teuffelen
Strauchen, Jakob, von Teuffelen
Stucki, Chr., von Ausser-birrmoos
Stucki, Nikl., von Kirchdorf
Studer, Hans, von Grafenried
Studer, Jakob, von Grafenried
Sulliger, Chr., von Zweysimmen
Suter, Sam., von Buren
Tanner, Joh. Ulr., von Eriswyl
Tauwalder, Hans, von Habkeren
Thierstein, Chr., von Bowyl
Thomi, Ulr., von Landiswyl
Trabold, Anton, von Zollikofen
Trächsel, Sam., von Thun
Tritten, Peter, von St. Steffan
Tritten, Chr., von Matten
Tschabold, Chr., von Steffisburg
Tschannen, Hans, von Wohlen
Tschannen, Bend., von Radelfingen
Tschanz, Chr., von Oppligen
Tschanz, Chr., von Oppligen
Tschanz, Chr., von Ober-wichtrach
Tschanz, Chr., von Nieder-wichtrach
Tschanz, Chr., von Nieder-wichtrach
Tüller, Matth., von Sanen
Tüscher, Nikl., von Limpach
Ültschi, Abr., von Oberwyl im Simmenthal
Vogel, Bend., von Gurbru
Vögeli, Nikl., von Grafenried
Vögeli, Rud., von Laupen
Vögeli, Nikl., von Herbligen
Vögeli, Chr., von Wilderswyl
von Allmen, Ulr., von Lauterbrunnen
von Allmen, Ulr., von Lauterbrunnen
von Allmen, Peter, von Lauterbrunnen
von Allmen, Peter, von Unterseen
von Guten, Chr., von Sigriswyl
von Guten, Peter, von Sigriswyl
von Känel, Chr., von Scharnachthal
von Känel, Jakob, von Scharnachthal
von Niederhausern, Hans, von Riggisberg
Waber, Hans., von Kiesens
Waber, Chr., von Münsingen
Wäber, Jakob, von Teuffelen
Wäber, Jakob, von Gerolfingen
Wäffler, Chr., von Frutigen
Wäffler, Peter, von Frutigen
Wäffler, Joh., von Frutigen
Wahli, Chr., von Bollingen
Wahli, Bend., von Bollingen
Wahli, Chr., von Bollingen
Wälchli, Jakob, von Wyningen
Walker, Chr., von Sanen
Wallert, Sam., von Ober-diessbach
Walter, Chr., von Nieder- Wichtrach
Walther, Jakob, von Kernenried
Walther, Chr., von Oberried
Walther, Hans, von Zauggenried
Walther, Bend., von Trauchthal
Walti, Peter, von Ruderswyl
Walti, Hans, von Arni
Walti, Bend., von Biglen
Walti, Hans, von Arni
Wälti, Bend., von Arni
Wanger, Peter, von Köniz
Wanner, Jakob, von Ezelkofen
Wegmüller, Peter, von Vechingen
Wegmüller, David, von Biglen

Wegmüller, Chr., von Vechingen
Wenger, Hans, von Ober-langeneck
Wenger, Hans, von Röthenbach
Wenger, Chr., von Wattenwyl
Wenger, Hans, von Röthenbach
Wenger, Dan., von Wattenwyl
Widmer, Ulr., von Sumiswald
Wiedmer, Ulr., von Heimiswyl
Wiedmer, Hans, von Eggiwyl
Wiedmer, Adam, von Jerisberg
Wiedmer, Chr., von Trub
Wiedmer, Peter, von Heimiswyl
Wieland, Jakob, von Schüpen
Wieland, Joh., von Wohlen
Wieland, Nikl., von Schüpen
Wisler, Hans Ulr., von Sumiswald
Witschi, Andr., von Bollingen
Witschi, Jakob, von Hindelbank
Wittwer, Hans, von Eggiwyl
Wittwer, Nikl., von Trub
Wittwer, Abr., von Trub
Wittwer, Chr., von Einingen
Wittwer, Sam., von Trub
Wittwer, Hans, von Eggiwyl
Wyss, Joh., von Arni
Wyss, David, von Landiswyl
Wyss, Nikl., von Arni
Wyss, Jakob, von Ober-diessbach
Wyss, Ulr., von Arni
Wyss, Ulr., von Arni
Wyssmüller, Joh., von Lütschenthal
Wyttenbach, Chr., von Goldiwyl
Zahler, Joh., von St. Steffan
Zahnd, Hans, von Wahleren
Zahrli, David, von Laupen
Zaug, Hans, von Trub
Zbinden, Ulr., von Guggisberg
Zimmermann, Jakob, von Habkeren
Zimmermann, Bend., von Zollikofen
Zoss, Hans, von Bollingen
Zürcher, Hans, von Rüderswyl
Zürcher, Chr., von Trub
Zürcher, Jakob, von Rüderswyl
Zürcher, Hans, von Rüderswyl
Zürcher, Chr., von Trub
Zürcher, Jakob, von Rüderswyl
Zurflüh, Ulr., von Wyningen
Zwahlen, Jos., von Sanen
Zwybach, Hans, von Grindelwald
Zwygard, Dan., von Bremgarten
Zwygard, Chr., von Bremgarten
Zwygart, Nikl., von Krauchthal
Zysset, Chr., von Balm

Spiritual Leader of a Nation

by: L. B. Kuppenheimer

Willi Gautschi, translated by Karl Vonlanthen. *General Henri Guisan: Commander-in-Chief of the Swiss Army in World War II.* New York: Front Street Press, 2003. xvi + 698pp. Photographs, maps, notes and index.

For nations of the world engaged in combat during World War Two, the stakes were national survival and the price was blood and treasure. And, for the five countries that elected to remain neutral, the stakes were no less grave, for at any moment an aggressor could chose to invade with no doubt as to the outcome. Of all the neutral nations, Switzerland was both the smallest (with only four million citizens) and the most precariously situated, sharing as it did common borders with three of the combatants. Of course, the only serious threat of invasion came from the Axis powers of Germany and Italy who, together with Austria, shared 67% of Switzerland's borders. It is now known that both Italy and Germany had actually drafted plans for such an invasion. Hitler, in fact, had made clear his intention to annex all German-speaking regions of Europe into one greater Reich.

However, there were important reasons why an independent Switzerland was more useful to Germany than transforming it into just another occupied country. The fact that Swiss currency was the only one traded continuously throughout the war and the fact that Switzerland was willing to buy German gold provided Germany access to convertible currencies critical to keeping its economy and war machine operational. Switzerland's absolute commitment to neutrality also meant that it maintained strong diplomatic relations with each of the warring parties throughout the war. Thus, it played a very useful role in providing a means of communication between the combatant nations. But this could change in the twinkling of an eye on nothing more substantial than a whim.

As Commander-in-Chief of the Army, General Guisan had several critical yet very difficult objectives he had to achieve if Switzerland were going to remain free. He knew, for example, that Hitler and the German High Command had to be convinced that Switzerland's commitment to neutrality and independence was so strong that they would resist any invader, even the Allies, and would thereby become reliable defenders of Germany's southern flank should Italy fall. Hitler also had to be persuaded that the Swiss people were so committed to resistance that the cost of invasion would be simply too high in terms of time and manpower.

In order to achieve these objectives, Guisan would have to overcome some uniquely interesting obstacles. In the first place, three of Switzerland's four official languages were German, Italian and French and thus, understandably, there were divided sympathies. After the fall of France

especially, Fascist sympathizers wanted acceptance of the "new order" in Europe and full cooperation with Germany. The Socialists, on the other hand, full of suspicion for the military, called for its reduction now that an "armistice" had been declared. Guisan knew that as passionate as his country was about its neutrality, it was even more passionate about maintaining its independence. He was confident that in the end his countrymen's loyalty to Switzerland would outweigh whatever sympathies they might have for the mother countries of their native tongues. In order to be successful with such a comparatively small population, General Guisan knew that he would have to unite and inspire not just his troops, but the entire nation to resist to the last. The Swiss term for this phenomenon is "Geistige Landesverteidigung" or a spiritual national defense, and nothing less would deter an acquisitive aggressor like Germany.

The military organization of Switzerland is unique in the world consisting, as it does, of a well trained but primarily reserve force. Under the Swiss constitution, a commanding general is elected by the Federal Council only when the country is faced with a "national emergency." But it was not until August 29, 1939 that Parliament declared such an emergency and the Federal Council unanimously proposed Corps Commander Henri Guisan, who at age 64 became only the fourth Commander-in-Chief in all of Swiss history. Consequently, General Guisan had little time to conceive and implement a plan of defense sufficient to discourage the most modern and proficient military existent in the world at that time. In 1939, the state of the Swiss military was such that it was ill prepared to deter either Germany or Italy. It had, for example, no modern mechanized equipment with which to face the "blitzkrieg," a German tactic based upon speed and ferocity of a thoroughly mechanized force. And although there was universal conscription, only a small percentage was on active duty at the time hostilities broke out.

How General Guisan was able to overcome the obstacles facing him and achieve the ambitious objectives called for by the situation Switzerland faced in 1939 is the task author Willi Gautschi has set before himself. Disciplining one's own bias is, perhaps, the most difficult task for any historian, but presenting a balanced analysis of a man who, since the end of the Second World War, has become not just a national hero but a national icon is risky indeed. Just like his subject, Prof. Gautschi did not allow himself to be deterred by the risks, but undertook this most challenging task with the same kind of focus and professional discipline that distinguished his subject. The English version of *General Henri Guisan* is a partnership between the author and the translator, Karl Vonlanthen, whose command of both German and English is so complete that a reader might easily believe that the original manuscript was written in English.

Willi Gautschi is a retired professor of history from the University of Zurich and the author of a number of works dealing primarily with twentieth

century topics. During the war years, he served as a soldier but remained in service long enough to rise to the rank of Lieutenant before taking up an academic career. His objective in writing this book was to present a detailed analysis of the challenges and hurdles faced by the army leadership between the years 1939 and 1945. In so doing, the author has examined every aspect of the General's role as Commander-In-Chief in an analytical study organized around the major issues facing him during the war. Comparatively short, Parts I and III discuss General Guisan's life before and after the war, but are enough to give the reader a solid grasp of the totality of his life. As one might expect, Professor Gautschi's sources are extremely dense and heavily weighted toward primary. In fact, the depth of his research and the copious detail of his analysis contribute to elevating this work to a seminal level.

Unlike other militaries, the role of the commanding general and the army cannot be viewed in isolation from either civilian leadership or the people at large. Professor Gautschi does a masterful job of weaving an enormous breadth of material into a coherent, flowing, and yet focused study. He manages to avoid two traps that would have been easy to fall into given the quantity of source material and degree of reverence with which General Guisan has come to be regarded. First, the author avoids the temptation to digress on related topics that would have confused and bored the reader. Secondly, and perhaps most importantly, is the author's deliberate decision not to make this work just another unabashed tribute. In fact, Prof. Gautschi's strong feelings on this subject are captured best in his own words, when he states "he [General Guisan] does not need to be lifted to a monumental level; any attempt to do so would be an insult to his memory."

Knowing, as all historians do, that there is no such thing as perfect objectivity, Gautschi openly admits that having met the General during the war, he had been deeply impressed. This fact not withstanding, the author applies the standards that one would expect from a true professional and gives voice to the General's critics of which there were many during the war. In the view of this reader, the author not only manages to achieve his stated objectives, but to exceed them. For not only does he present a highly researched, detailed and balanced analysis of the Commander-in-Chief during wartime, but in so doing, he also portrays a leader who struggled with many of the same imperfections that plague us all. Gautschi artfully explains how Guisan, a man who rose from a remarkably undistinguished military career, became one of the most revered figures in Swiss history. General Guisan was able to accomplish this remarkable feat, because he embodied an unusual blend of charismatic qualities that inspired not only an army, but a people.

Louis B. Kuppenheimer
Phelps, Wisconsin

About the Author:

Louis B. Kuppenheimer worked in banking before co-founding a cable television company with which he was involved as a vice president and director until its sale in 1985. He completed his Ph.D. in American history at the University of Illinois at Chicago in 1994 and published his doctoral dissertation as *Albert Gallatin's Vision of Democratic Stability: An Interpretive Profile*. Westport, Connecticut: Praeger, 1996. He lives in Phelps, Wisconsin, and is engaged in a study of the Treaty of Ghent which ended the War of 1812 between the United States and Great Britain and in the conclusion of which Albert Gallatin played a significant role.

swiss roots

www.swissroots.org

How Swiss are you? Find out at www.swissroots.org

What do Renée Zellweger, Bob Lutz, Johann August Sutter, and Louis Chevrolet have in common? They are all American individuals with Swiss roots. Since the early 18th century, thousands of Swiss citizens have emigrated to the U.S. – whether they were motivated by curiosity, hopes for a better future, or because of economic hardship in Switzerland.

Today, over one million Americans have Swiss roots, more than 5,000 American cities have Swiss names, and countless U.S. citizens are intrigued by the culture, diversity, and beauty of Switzerland. By the same token, there are many Swiss who have strong affinities to the U.S. for reasons of tradition, personal interest, or fascination by the American way of life.

Beginning in 2006, all these people will have access to a tool allowing them to explore their interest: **www.swissroots.org**. This website is part of a project organized by the official Swiss representations in the U.S. in cooperation with numerous local Swiss associations. **swiss roots** is supported by Switzerland promotion agencies such as Presence Switzerland, Switzerland Tourism and Pro Helvetia. It offers a platform to promote cultural, tourist, and economic interaction between the U.S. and Switzerland.

The centerpiece of the campaign is the website **www.swissroots.org** which offers Americans the possibility to discover their Swiss roots and the land of their ancestors with just a few mouse clicks. To be launched in March 2006, the **swiss roots** website will include features such as genealogical search engines, interactive communication tools, community sites, a wide range of interesting and surprising information on Switzerland, profiles of famous Swiss emigrants and the **swiss roots** event calendar. Visitors will have the opportunity to exchange ideas with like-minded people in both countries. Americans who feel inspired to visit the land of their forefathers can use the website's resources to book their trips.

Various events will be organized throughout the U.S. to promote **swiss roots**. An exhibit about Swiss oversea's emigration will be shown on Ellis Island from August to October 2006. A Swiss Postal Bus will drive through several U.S. states and will be present at several **swiss roots** events.

Additional events will promote **swiss roots** in the five U.S. states that have the highest concentration of Americans with Swiss roots which are California, Ohio, Pennsylvania, Wisconsin, and New York. Just to mention a few of them: "Tell-Spiele" in New Glarus, Wisconsin; Basle Carnival Days in Los Angeles; a Swiss "Sängerfest" in Toledo, Ohio; the Green County Cheese Days in Monroe, Wisconsin.

swiss roots is a unique opportunity to bring Swiss and Americans together, to bring together people from two countries with close ties, common interests and shared traditions. **swiss roots** offers the chance to learn more about each other's heritage while discovering exciting and surprising Switzerland. **swiss roots** is an ambitious endeavor dedicated to reviving old connections and creating new friendships. Find out more about **swiss roots** on **www.swissroots.org**.

SAHS ANNUAL REPORT 2005

42ND SAHS ANNUAL MEETING
Arch Street Friends (Quakers) Meeting House
Fourth and Arch Streets
Philadelphia, Pennsylvania

1. AGENDA FOR THE BUSINESS MEETING
2. REPORTS

   A. Minutes of the Meeting
      Jürg Siegenthaler

   B. President's Report
      Heinz B. Bachmann

   C. Special Report
      Ambassador Raymond Loretan

   D. Membership Report
      Ernest Thurston

   E. Treasurer's Report
      Heinz Bachmann (ad interim)

   F. Audit Report
      Ernest Thurston

   G. Publications
      Heinz Bachmann

3. PROGRAM FOR THE AFTERNOON MEETING

FORTY-SECOND SAHS ANNUAL BUSINESS MEETING

1. AGENDA

1. **Call to Order and Welcome**
2. **Approval of the Minutes of the 41st Annual Meeting of Oct. 2, 2004**
   Jürg Siegenthaler
3. **President's Report**
   Heinz B. Bachmann
4. **Special Report: Swiss Roots**
   Ambassador Raymond Loretan
5. **Elections: Board of Advisors, Class of 2005-2008**
   Rosa Schupbach
6. **Membership Report**
   Ernest Thurston
7. **Treasurer's Report**
   Heinz Bachmann (ad interim)
8. **Audit Report**
   Ernest Thurston
9. **Publications**
   Heinz Bachmann
10. **New Business**
11. **Next Annual Meeting**
12. **Adjournment**

2. REPORTS

A. Minutes of the Forty-Second Annual Business Meeting of the Swiss American Historical Society

Philadelphia, Pennsylvania
October 1, 2005

1. The meeting is called to order at 10:20 AM.

2. Last year's minutes are approved unanimously.

3. President's Report

Our major publishing project was the book by Leo Lesqueureux, a translation from the French, which is a first.

The *Swiss-American Historical Review* continues to publish important writings and book reviews. The June issue was special in covering the origins of the New Glarus settlement. Extra issues were purchased for sale at the New Glarus museum.

Archival materials of the Society were considered to be stored at New Glarus.

The Society was contacted several times for help and advice, especially in connection with the Swiss Roots project (see below). There was a visit from the Migration Museum in Winterthur.

The President thanked Mr. Portman as the host and the fellow officers of the Society, as well as Marianne Burkhard and Leo Schelbert for their help and support.

4. Special Report by Consul General Raymond Loretan on Swiss Roots

The Swiss Roots project fits within the context of better relations between Switzerland and the U.S. and the efforts to arrive at a free trade agreement: Swiss-Americans are to link up with their Swiss roots, Swiss at home are to connect with their descendants abroad; 1 million Swiss-Americans are to rediscover Switzerland.

The project encompasses events at the national, regional, and local level.

At the **national** level, there will be an exhibit at Ellis Island, opening on 29 July 2006; a road show with a Swiss Postauto and singer, touring the U.S.; and cultural events sponsored by Pro Helvetia.

There will be 7 **regional** events, including one at the Philadelphia Constitution Center, and several local events.

Ideas are still welcome. The website, www.swissroots.org, will serve as interface. People will be reached by postcards as well. An affinity network between Swiss and American societies is to be created, propelled by the Consulate General in New York. VIPs of Swiss origin are to be contacted and engaged. A minimum amount of funding to get the project going is available, but more money will have to be raised for special efforts.

Cooperation with SAHS would be most welcome, among others in the field of genealogical information, contacts with the US Council of State Archivists, and the scheduling of joint events.

5. Elections

Fred Jenny is nominated to be Vice President in Switzerland. He is elected unanimously.

In her nominating report, Rosa Schupbach presents the new class of Advisors 2005-8:

Lewis B. Rohrbach
Franz Portman
Karl Niederer
Paula Sherman
Elsbeth Reimann

The new members of the Advisory Board are elected unanimously.

6. Membership Report

A handout is provided by Ernest Thurston. There are questions raised concerning loss of members through non-renewal and concerning recruitment. We have lost 40 percent of our membership over the last few years. It is suggested that we do some analysis of *how* people find us. We may need another survey, as well as ongoing marketing. Above all, we must create awareness in the Swiss-American network that we exist. Use publications as means of recruitment. Appeal to Romands, Ticinesi, and people living in Canada. Our brochure must be updated and distributed, e.g., at the Embassy and Consulates.

9. Publications

An Othmar Ammann genealogy is in progress. His daughter will pay for publication, but distribution is at our cost, c. $1,500, which is approved

unanimously. The Review will have a special Ammann issue in June 2006. There should be an event planned, perhaps in connection with the Ellis Island exhibit **and/or Swiss Roots**.

A new book planned for 2007 will be a translation of letters by Otto Wyss (1886-1935), immigrant to California. A $4000 subsidy from the family is promised. A contribution by SAHS of $1,500 towards the cost of translation is approved unanimously.

7. Treasurer's Report

We are doing well financially. There are questions on creating a website, as well as other efforts of advertising, for which some money should be spent.

The budget is approved unanimously as proposed.

11. Next Annual Meeting

Next year's Annual Meeting will be on Saturday, 7 October, in New York City. An invitation to a reception at the Consul General's Residence is extended.

12. Adjournment

The Meeting is adjourned at 12:45.

Submitted by Jurg K. Siegenthaler, Recording Secretary

B. President's Report

Welcome to this 42nd Annual Meeting of the Swiss-American Historical Society. As you have seen in your invitation, this meeting could as well be called a Léo Lesquereux Memorial since today we are likely to devote as much time to the memory of this remarkable 19th century bryologist from Neuchâtel as to the business of our Society. (By the way, if you did not have time to look up in Webster's what the term bryologist stands for; it means a specialist in the science of mosses)

First, let me extend a cordial welcome to Ambassador Raymond Loretan, head of the Swiss Consulate General in New York. As you know, he is the *spiritus rector* of the *Discover your Swiss Roots* idea and is going

to talk to us about the progress of this project today. A welcome also to Ms. Monica Howden, task manager of the *Swiss Roots* project.

As far as our **book publishing** activities go, this year focused predominantly on the Lesquereux memoirs. While the translation by Prof. Page was largely completed by the beginning of the year, much work remained to be done, including the drafting of a biographical sketch by Prof. Tritt, as well as the drafting of an introductory essay, preparing of annotations and putting together a bibliography by Prof. Schelbert and Ms. Wendy Everham. I am happy to report that this work has now been largely completed; the book is scheduled to reach all of you early next spring. One of its particular attractions is that – if I am not mistaken –it is the first book published by our Society written by a French speaking Swiss and translated from French. I shall come back to this later.

The **SAHS Review** in its first two editions of the year provided some little known insights into the Protestant Reformation in Switzerland, in particular into the beginning and end of the Reformation in the Middle and Upper Valais, compared to the – relative – religious tolerance in Basel; it also presented a review of the film *Luther* and a vivid response to it.

The June edition was special; it was the product of a collaborative effort of two members of the New Glarus Historical Society and two of our own members focusing on a single event, namely the beginning of the New Glarus settlement in the Summer of 1845. In addition to producing a remarkable document this approach had a number of positive side-effects; first it showed the outstanding results we can achieve through close cooperation with a "grass roots" Swiss club; second the purchase of 200 copies of the June *Review* by the New Glarus Historical Society for sale in their Historical Village provided our Society with some welcome free publicity; third it created much goodwill from the Consul General in Chicago who was very pleased with our support of the New Glarus initiative; finally, in an indirect way, it contributed to the marked improvement in our relations with the Swiss Center of North America during the course of the year. At one stage, when it seemed as if the Society's archives could no longer remain in Philadelphia, we approached the Swiss Center and appreciated its willingness to accept them. All in all a very successful endeavor, for which Prof. Schelbert deserves much credit.

As a token of this improved relationship, let me pass on to Donald Tritt for transfer to the Swiss Center of North America this little photo picture book on Switzerland that a former member had given to our Society after she had cleared out her book shelves.

During the course of the year the Society was contacted several times for **help and advice**:

> The most important, obviously, concerned the *Discover your Swiss Roots* project. Contacts were made at different levels, most

importantly with the Consulate General in Chicago. We are going to hear more about this subject from Ambassador Loretan in a minute.

I was also visited by a representative of the *Migrationsmuseum* in Winterthur about an exhibition on Ellis Island next summer and fall focusing on famous Swiss immigrants, whose Swiss ancestry is little known in America, such as General Sutter, Othmar Ammann, the Guggenheims, Chevrolet, Steve Ballmer, etc. If the project is realized one could visualize a possible link with our next year's Annual Meeting that is also going to be held in New York and/or with the promotion of the Ammann genealogy book that I am going to mention in a minute. It may also be possible to integrate this project into Swiss Roots.

Mr. Geri Stocker, a Swiss radio reporter and hobby photographer, has created an exhibition of photographs depicting the many examples of Americana, mostly large posters, which one encounters in Swiss streets, railway stations, etc. and enquired about possibilities of showing it in Swiss clubs or Swiss centers in the US. Prof. Tritt has provided him with some advice in this respect.

In concluding I would like to thank a number of members who have played an important part in the past year's activities. My first thanks go to Franz and Rosemarie Portmann from the Swiss Consulate here in Philadelphia for their help and advice to a novice president in organizing an Annual Meeting in this town.

I would also like to thank my co-officers for their dedication and hard work; Rosa Schupach Vice President North America has been a frequent and helpful source of advice; GionMatthias Schelbert quickly established himself as a trusted treasurer; Ernie Thurston has continued to manage our membership records with a steady hand; and Jürg Siegenthaler has been an unfailing recording secretary.

Last but not least my great thanks go to two non-officers but old Society hands Marianne Burkhard and Leo Schelbert to whom I have turned often for inspiration and advice and have never been disappointed.

Before giving the floor to Ambassador Loretan, let me propose a slight change in the published agenda, namely moving point 9.Publications ahead of point 7.Treasurer's Report. In hindsight it seems more logical to discuss the Society's publishing plans for the coming year before discussing the new budget that will have to provide the necessary credits to finance these plans.

D. Membership Report

Swiss American Historical Society
09/30/2005

To: Members of the Swiss American Historical Society
From: Ernie Thurston, Membership Secretary
Subject: Annual Membership Report

IN BRIEF: We have 244 current members, an 8% decrease from the 265 reported last year at this time. The number of new members is down (from 15 the previous year) but the number not renewing is about the same as in 2004. We need to address the recruitment of new members. We had no new LIFE members this year, but I want to acknowledge Gion Matthias Schelbert, whom I forgot to thank in last year's report for becoming a LIFE member in 2004.

CURRENT MEMBERS BT TYPE AND COUNTRY:

Membership Type	**US/Canada**	**Switz./Other**	**Total**
Regular ($50/yr.)	107	30	137
Student ($15/yr.)	4	2	6
Institution ($75/yr.)	11	4	15
Life Members ($500)	39	7	46
Complimentary	31	9	40
	192	52	244

MEMBERSHIP CHANGES, 10/01/2004 to 09/30/2005

Members as of 10/01/2004	265
Plus: New Members Enrolled	7
Plus: Former Members (not "Current" last year) who have rejoined	0
Less: Dropped by Request or Decease	- 10
Less: Dropped for Non-Payment of Dues	- 18
Current Members, 09/30/2005	244

CURRENT MEMBERSHIP BY COUNTRY AND STATE:

AK 1	IN 4	NJ 5	UT 3
CA 18	LA 3	NV 2	VA 7
CO 1	M 3	NY 24	VT 1
CT 1	MD 9	OH 10	WA 2
DC 3	ME 1	OR 2	WI 14
DE 2	MI 1	PA 7	BC, Canada 1
FL 5	MN 8	RI 1	ON, Canada 2
GA 1	MO 1	SC 5	QB, Canada 1
HI 1	MT 1	SD 2	Germany 1
IA 3	NC 7	TN 4	Switzerland 51
IL 20	NH 1	TX 4	

Commentary by Heinz Bachmann, President

I fully agree with Ernie Thurston's remarks that we need to address the recruitment of new members. In fact, I am quite concerned about our long term membership outlook. Over the last decade total membership has declined by nearly 40% from a peak of 390 to little over 240. While in the mid-1990s the Society was confident of reaching a level of 500 very soon, membership actually declined to a level less than half of that. This decline really sneaked up on us. There was hardly ever a year with a large enough fall to catch our attention; instead there were constant, relatively minor declines - averaging about 15 persons per year - that went largely unnoticed. This last year, the decline reached 21 or 8%.

While there is no immediate danger, this trend can not continue for very much longer before seriously jeopardizing the future of our Society. Once membership falls below a critical level a vicious circle is likely to set in, as annual fees would need to be raised increasingly to cover increasing costs per member; this, of course, would further accelerate the decline in membership; and so on and so on and so on.

The past membership decline did not result primarily from a lack of interest in what we do. In fact, over the last decade on average over 25 new members joined the Society every year. This is actually a fairly high figure which indicates that the SAHS still has a valid *raison d'être* and that it is doing something for which there still is considerable demand. However, the figure is by far not sufficient to compensate for the nearly 40 members dropping out every year. Just simply to compensate that loss, and prevent any further decline in present membership, new, annual recruitments would have to increase by over 50% above the past trend. This is not just going to happen; we need to make it happen.

What is needed, in my opinion, is a basic change in our attitude vis-à-vis membership recruitment from the past attitude of benign neglect to a decidedly pro active stance. As you may remember, in 2002 at the initiative of - and largely financed – by the late Dr. Ziegler, the Society did make a rare, active recruiting attempt by printing an attractive flyer that was widely distributed to Swiss clubs, Swiss embassies and consulates. It led to a sizable upswing of new members in that year; the longer term impact of this one shot action, however, was virtually nil. What is clearly needed is a permanent, continuous, effort, year by year by year.

When one starts thinking about the possible content of such a permanent, continuous membership drive the first thing that hits one is the lack of knowledge about our prospective new members, who they might be, what could make them join, and – most importantly – how could we possibly make ourselves known to them.. To remedy this lacuna I propose that we carry-out a limited survey. Since it would be difficult to question prospective members (the target population) whom we do not know, I propose that we question recent members, IE. the 60 to 70 members who

have joined in the last 7-8 years and are still members today. The questionnaire should tell us who they are, such as first generation immigrants, second or later generation immigrants, persons with no family links with Switzerland, etc.; What their mother tongue is; Whether they are members of a Swiss club, of a historical or a genealogical association and regularly attend their meetings; Whether they are subscribers to one of the Swiss periodicals published in the US, or any historical or genealogical periodicals; Whether they are interested mainly in immigration issues, in genealogical research, or more generally in Swiss-American relations; Whether they are academics, (professors and students) who can best be contacted in colleges, universities, think tanks etc; and last but not least how on earth they managed to know about us, considering that the term *Swiss-American Historical Society* is not a household word, neither in the US nor in Switzerland.

Based on the outcome of this survey a permanent membership recruitment policy should be designed that may include some of the following elements:

- Regular advertising in periodicals read by the target population 1/
- SAHS presence at certain events frequented by the target population, whether they are organized by Swiss Clubs or other organizations (historical, genealogical), short presentations, staffing a booth; possibly using some of SAHS's excess book holdings as enticements
- Whenever possible, use the publication of a new Society book or of a special issue of the *Review* to organize a new book release or book debut with or without the help of a local Swiss club and of our own members living in the area. While not all publications lend themselves to this approach many do such as the books on Philip Schaff and Mari Sandoz and the trilogy by Carol Williams 2/

In this year's proposed budget an allocated $600 is included for these purposes.

1/ such as "The New Swiss Journal", presented in the Feb. 2003 issue of *Review*
"The Swiss Connection" by Maralyn Wellauer, Gonzenbach Award 1996
The "Swiss Review", published by the Organization of the Swiss Abroad

2/ Philip Schaff: Mercersburg College (21 years); F+M Lancaster; Union Theological Seminar New York
Mari Sandoz: Nebraska State Historical Soc., Lincoln
University of Nebraska, honorary Doctorate of Literature
Carol Williams Trilogy: Savannah, Charlestown

Finally, any pro active membership drive should focus particularly on three groups of potential members which have so far remained largely outside our Society: French speaking and Italian speaking Swiss and their descendants as well as people living in Canada. For historical reasons our Society always had a predominantly Swiss German membership. All its founding fathers were Swiss Germans and - except for one Romansch speaker - so were the initiators of the 1964 reactivation, including the then Ambassador in Washington, the head of the Consulate General in New York and the Cultural Counselor at the embassy, who all played an active role in that rescue operation. While the Society has a limited number of French speaking members, right now we don't seem to have a single Italian speaking member nor any individual member living in Canada. [The four "Canadian" members shown in our statistics consist of the Swiss Embassy and three Consulate Generals]. This triple lack presents at the same time an opportunity and a challenge; an opportunity in as far as there are three pools of potential members just waiting out there to be tapped; a challenge to come up with the appropriate strategy to successfully tap them. At this stage, I have no concrete plans on how to meet this challenge but would be grateful for any constructive suggestions.

S A H S Membership 1992-2005

Sept. 30	US				Switzerland				Grand Total			
	Regular	Life	Compl.	Total	Regular	Life	Compl.	Total	Regular	Life	Compl.	Total
2005	122	39	31	192	36	7	9	52	158	46	40	244
2004	143	39	29	211	38	7	9	54	181	46	38	265
2003	150	37	29	216	41	6	11	58	191	43	40	274
2002	191	36	28	255	44	6	13	63	235	42	41	318
2001	178	33	28	239	48	5	15	68	226	38	43	307
2000	194	33	28	255	47	4	15	66	241	37	43	321
1999	210	30	30	270	44	4	16	64	254	34	46	334
1998	193	29	31	253	36	4	16	56	229	33	47	309
1997	201e	32e	33e	266	36e	4e	16e	56	237	36	49	322
1996	242e	31e	31e	304e	37e	4e	14e	55e	279e	35e	45e	359c
1995				309				55	290	33	41	364
1994				337				53	318	29	43	390
1993				332				55	321	27	39	387
1992				317				52	313	24	32	369

Remarks:

US	includes a small number in Canada
Switzerland	includes a small number in other countries
Regular	includes students and institutions
	refers to Sept. 25, corrected for typo (see *Report 1997* p. 19)
e	break-down estimated
Source:	Annual Meeting reports

SAHS Membership, Annual Losses and Gains

	Old members dropped out	New members enrolled	Net
2004/5	28	7	- 21
2003/4	25	15	- 10
2002/3	57	13	- 44
2001/2	26	37	+ 11
2000/1	22	8	- 14
1999/0	41	28	- 13
1998/9	34	59 1/	+ 25 1/
1997/8	33	20	- 13
1996/7	81	44	- 37
Total (all 9 years)	347	231	- 116
Annual average	38.6	25.7	- 12.9
Total (last 6 years)	199	108	- 91
Annual average	33.2	18.0	- 15.2

1/ including 7 old members who have rejoined

ANNUAL FINANCIAL REPORT OF THE SWISS AMERICAN HISTORICAL SOCIETY

For the 2004-2005 Fiscal Year (Oct. 1 2004 to Sept. 30, 2005)

Submitted to the Annual Membership Meeting, Oct. 1, 2005, in Philadelphia, PA

BALANCE SHEET		Opening 10/1/2004	Closing 9/30/2005
ASSETS	101 Checking Account	4,682.99	2,596.42
ASSETS	102 Vanguard STAR Fund	64,700.68	72,416.13
ASSETS	103 Capital Assets	0	0
ASSETS	104 Petty Cash	31.82	0
ASSETS	105 Pre-Paid Expenses	167.8	167.8
TOTAL ASSETS		69,583.29	75,180.35
LIABILTIES	201 Accounts Payable	0	0
LIABILTIES	202 Restricted Funds	0	0
LIABILTIES	203 Other Payables	0	0
EQUITY	299 Net Worth	-69,583.29	-75,180.35
TOTAL LIABILITIES AND EQUITY		-69,583.29	-75,180.35

OPERATING STATEMENT		Amount	
INCOME	301 Annual Dues	6,450.00	
INCOME	302 Donations	435	
INCOME	305 Vanguard STAR Dividends	1,621.20	
INCOME	306 Vanguard Capital Appreciation	6,094.25	
TOTAL INCOME		14,600.45	
EXPENSES	403 Postage, Stationary, & Admin.	2,230.57	1/
EXPENSES	404 Publications	6,241.00	2/
EXPENSES	408 Honorariums	500	
TOTAL EXPENSES		8,971.57	
NET INCOME		5,628.88	

1/ Includes cost of shipping SAHS *Review*

2/ Includes special printing of book

Submitted: **GionMatthias Schelbert**
Treasurer

E. Treasurer's Report

Annual Financial Report of the Swiss American Historical Society

SAHS; PROPOSED BUDGET FOR 2005-2006

Income		
301 Annual Dues: US	7,000	
301 Annual Dues: Switzerland	2,500	
302 Donations	-	
303 Annual Meeting Fees	-	
304 Book Sales	-	
340 Vanguard STAR Fund Dividends	1,600	
306 Vanguard Capital Appreciation	2,000	
307 Life Membership Paid	-	
Total Income		13,100
Expenses		
401 Annual Meeting	-	
402 Donations	-	
403 Postage, Stationary & Admin.	500	
404 Publication, Review	5,500	
404 Publication, books	8,100	
405 Legal & Professional Services	600	
Total Expenses		14,700
Net Result		- 1,600

Additional Notes:
Annual Meeting Fees (303) and Expenses (401) are netted out

Publication, books (404)includes:

Lesquereux,	printing and distribution	5,000
	new book release Chicago	400
	new book release Columbus	200
Ammann genealogy	distribution	800
	new book release	200
Otto Wyss book	translation, SAHS share	1,500

Legal & Professional Services (405)
expenses related to the membership drive; advertisements, etc.

The Society's finances did quite well last year. As indicated in the balance sheet, its net worth – or if one prefers, its endowment - increased by about $ 5,600, exclusively as a result of an increase in the value of the Society's investments in Vanguard STAR. Without that increase the year would have ended with a small deficit. Is that capital appreciation going to continue as it has over the last three years? Nobody can tell, of course; in the proposed budget for 2005/06 an amount of $ 2,000 is included, in line with past budgets.

Annual dues at about $ 6,500 came in way below budget; largely, but not exclusively as no transfers were made from Switzerland. This is going to change this year when it is planned to introduce, or re-introduce, a system of automatic transfers. As a result, the proposed budget foresees a marked increase in annual dues revenues to $ 9,500.

Actual expenditures were about $ 2,000 or nearly 20% below budget. Most of it does not represent real savings but a shifting of costs for the Lesquereux book from last year to this; one of the reasons why expenditures on book publishing are proposed to nearly triple this year. These expenditures are detailed at the bottom of the budget. They reflect the work program proposed above.

Finally, the proposed budget for this year projects a small overall deficit of $ 1,600. Given the Society's present net worth of over $ 75,000 this is quite manageable.

G. Publications

In the absence of both Nicole Butz, the Society's book editor, and Prof. Dwight Page, editor of the SAHS *Review,* I would like now to brief you about the Society's publishing plans for the coming year and to ask for your approval.

As mentioned already the most spectacular event of the year will be the release of the Lesquereux book next spring. This could provide a first opportunity for a pro-active membership drive as just discussed. First, it is proposed that the book not just be distributed quietly to our members, but be released to the general public as part of an event planned by the Consulate General of Chicago in the context of the *Swiss Roots* project; while the Society's role in this event is limited it will nevertheless provide a welcome promotional opportunity. A similar event may be organized in Columbus OH where Lesquereux lived for many years until his death. Second, if a successful way could be found, publication of this book written by a world famous scientist from Neuchâtel could help in our efforts to attract more French speaking members. The remaining costs of this project - printing and distribution - are estimated at about $5,000. They were approved at earlier Annual Meetings. The Chicago and Columbus events are not likely to cost

the Society more than about $600 and are submitted for your approval today.

A second book likely to become ready for publication late in the year, is the genealogy of Othmar Ammann, the famous bridge builder of Swiss descent. Some years ago the family had published a genealogy in German. Recently, his daughter Dr. Margot Ammann Durrer translated the book into English and approached Prof. Schelbert about the best way of publishing it in the US. Genealogies, even of famous people, are generally not very popular reading. Nevertheless, the Society felt justified publishing the book, given that Othmar Ammann's Swiss origin is not that widely known. Dr. Durrer has volunteered to finance all preparation and printing costs; the Society's financial obligations would be limited to the costs of Picton Press delivering the book to our members as well as to a number of libraries and other scientific organizations in the US. These costs are estimated at about $600. Again, we are considering the possibility of organizing a new book release in New York - in the context of the *Swiss Roots* program or other – that could provide publicity for our Society. This might cost another $200. These proposals are submitted for your approval today.

Finally, we are asking for your approval to start work on a new book for publication in 2007. It is a classic SAHS project, the translation of a large number of letters by a Swiss immigrant and his two wives, covering over 70 years from 1862 to 1935. No, Otto Wyss was not a bigamist, but his first wife passed away early and with the help of this brother in Zürich a second wife joined him from Switzerland to look after the widower and his two young girls. The family's three young boys had dyed of diphtheria within three days of each other a few years earlier. As you can see, this is not a cheerful book but a grim narrative of the appalling conditions often faced by Swiss immigrants in their daily struggle for survival as late as the second half of the 19th century. In that respect, it shares many similarities with the early parts of the Thürkauf memoirs.

In addition to the subject matter, this book project has three attractive features:

1. It would appear to lend itself fairly well to the organizing of a new book release in line with what has been discussed before. Most of the story is set in one little town located halfway between San Francisco and Los Angeles. Hence, there is a strong local focus. There are several historical societies and museums in the vicinity that might be willing to co-sponsor such an event; and so might the Swiss Club of Santa Barbara, about 100 miles to the south;
2. The book has already been published in Switzerland; hence, the material is ready for translation without need for further research, including annotations and a bibliography. The only possible changes could consist

of some shortening in the early parts dealing with Otto Wyss's youth in Switzerland and his work experience in France and England;

3. The Wyss family is ready to finance the translation costs up to a total of $4,000, possibly even $5,000. We estimate that these costs could reach about $ 6,000. Hence, the proposed budget this year includes $1,500 of our own funds for this purpose.

3. PROGRAM OF THE AFTERNOON MEETING

1:30 P.M. *Dr. Donald G. Tritt,*
Emeritus Professor of Psychology, Denison University, Ohio

"Leo Lesquereux (1806-1889), Swiss American Bryologist and Paleontologist: An Arduous Journey of Excellence in Science"

2:30 P.M. Coffee Break

2:45 P.M. *Ms. Wendy Everham,*

"Lesquereux's View of the United States circa 1849/50"

4-4:30 P.M. Departure

* The next national meeting of the Swiss American Historical Society will take place in New York on Saturday, October 7th, 2006. All members of the Society are cordially invited to attend.

SAHS APPLICATION FORM

Name_____

Address_____

City_____

Phone_____ Fax_____

Email:_____

Dues: _____Individual $50.00 per year
_____Institution $75.00 per year
_____Student $25.00 per year
_____Life Membership $500.00

Make check payable to: SAHS

Mail this form, with your check to:
Ernest Thurston
Membership Secretary
95 Old Coggins Place
Asheville, NC 28805

* Membership in the Swiss American Historical Society is open to all. Members will receive each year three copies of the extremely interesting *Swiss American Historical Society Review*, a personal copy of each book published by the Society, and an invitation to attend the national meeting of the Society, held consecutively in Philadelphia, New York and Washington. At these national meetings members will have the opportunity to meet fellow Swiss Americans and scholars in the fields of Swiss and Swiss American studies and international relations and to establish new friendships and professional relationships.

SWISS AMERICAN HISTORICAL SOCIETY

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