

PETROLEUM HISTORY SOCIETY



Newsletter of the Petroleum History Society

October 2007; Volume XVIII, Number 6

P.H.S. Lunch and Learn Meeting - Thursday, October 25, 2007

"Get *Pumped*" – Incorporating Historical Context into a new Popular Oilpatch Overview

by David Finch, Historian and Author

David Finch has just released, through Fifth House Publishers, a new book entitled "Pumped: Everyone's Guide to the Oil Patch". According to the description of the book, it "explains the 'patch in short, punchy chapters and with lots of illustrations, charts, graphs - even political cartoons. The index is also a glossary so you can find out quickly why the oil sands produce "synthetic oil" and why royalties are called "rent" and the role of "elephants" in the 'patch." Fellow author Andrew Nikiforuk calls him "a crafty oil patch historian" and we will find out why at this luncheon as David explains why the creation of a popular descriptive volume about our industry required significant helpings of historical perspective to be understandable.

David Finch is well known to our Society as a past speaker, contributor to Archives and award winner. He is a historical consultant living in Calgary. With more than 20 years of consulting experience, David is also the author of several books on the oil industry, including Hell's Half Acre, and histories of several professional societies. He is a regular contributor to The Calgary Herald, Alberta Oil and Alberta Views. David received the Lifetime Achievement Award from our Society in 1999. He holds an M.A. in Canadian History from the U. of C., where he studied the Canadian petroleum industry, and is the author of 15 books about the Canadian West.

TIME:12 noon, Thursday, October 25, 2007.PLACE:Fairmont Palliser Hotel (133 - 9th Avenue S.W.) - Corral Room (check marquee)COST:Members \$30.00 and Guests \$35.00 (most welcome) (cash or cheque only)

R.S.V.P. if you wish to attend to: Bill McLellan, 288-9089 or mclellaw@telus.net by noon Monday, October 22

Individuals who indicate that they will be attending but do not materialize will be considered "no shows" and will be invoiced for the cost of the luncheon. Individuals who do not R.S.V.P. cannot be assured of seating. We apologize for the need to implement these policies but we are finding it necessary to optimize both the financial and operational aspects of our luncheon program. Thanks.

THE PETROLEUM HISTORY SOCIETY THE BULL WHEEL



Next Board Meeting: The Board will meet during November at the Glenbow Museum and Archives on a date yet to be established. Thanks to Treasurer Doug Cass for his hospitality.

Volunteers: We are always on the lookout for people with the energy and dedication to help us grow and to undertake projects on the Society's behalf. Please contact Clint Tippett (691-4274), Doug Cass (268-4203) or Hugh Leiper (249-0707) if you would like to get involved.

Next Luncheons: We are always seeking speakers and interesting subjects. If you would like to consider presenting, please contact Clint Tippett, President P.H.S., at 691-4274.

Canadian Centre for Energy Information: The P.H.S. has a "Content, Marketing and Traffic Partnership" with the Centre. This arrangement is an expression of the mutually beneficial cooperation that exists between our two organizations. Please see <u>www.centreforenergy.com</u> for more details. Of particular interest to our members is their on-line historical volume "Evolution of Canada's Oil and Gas Industry" that can be downloaded free of charge.



Canadian Centre for Energy Information

www.centreforenergy.com

Tidbits:

The **Calgary Public Library** provides a very useful one-page handout entitled "Researching Petroleum Companies" in which various directories available for viewing in the Central Library downtown are listed. We will see if we can add this to our website.

Another **Ron Carey** connection to history: As reported in the Calgary Herald on July 21, 2007, Ron Carey, best known for his contribution of vintage cars and oil company memorabilia to Heritage Park, was also one of the original distributors of the famous 1980's bumper stickers that read "Please God, let there be another oil boom – I promise not to piss it all away next time." I wonder what he's thinking right now.

Black Gold – a documentary by Marc and Nick Francis. Your editor was excited to read this as he thought it would be an oil patch piece. Unfortunately there is another "black gold" around these days, as anyone who frequents Starbucks or even Tim Horton's can attest. The article went on the read "Black Gold looks at inequality in the coffee industry. Not to be confused with Texas tea, the black gold of Marc and Nick Francis' documentary refers to coffee, the caffeine-packing commodity at the heart of a \$55 billion US a year industry."

Passings:

Robert Adair: Bob Adair passed away on July 14, 2007. Bob was a long time member of the Society and attended many of our luncheons.

Ray Mahaffey: Ray passed away on September 23, 2007. Ray was another long-term member of the Society. He was born in Kitscoty, Alberta on September 11, 1918 and attained his LLB at the University of Alberta, earning the Chief Justice's Gold Medal. In 1942, Ray joined the 5th Medium Artillery and served overseas in England, Italy and Europe. He returned to Canada in 1946 and took his MA degree at the University of Toronto. He practiced law in Yellowknife and Edmonton before joining the law division of Chevron Standard in Calgary in 1949, becoming the General Consul. After his retirement in 1983, he enjoyed traveling overseas, having lunch with friends and his tri-weekly aquasize classes with his group at the Glencoe Club.

Bill Roman: Bill was a well-known Shell engineer. He was born near Lvov in the Ukraine in 1924 and immigrated to Canada in 1930, settling near Lethbridge. Alberta. Following his wartime service in the Canadian Merchant Navy, he earned a degree in electrical engineering at the University of Toronto. After graduation he and his new wife moved to Calgary where he began a long and successful career at Shell Canada. According to his obituary "Pioneering sour gas processing at Jumping Pound and co-designing and engineering the plant at Waterton were but a few of his accomplishments. He also established safety and environmental practices still in use today." Our readers will recall Fred Stenson's description of Bill's work in his book "Waste to Wealth" which is highly recommended.

100 Years Ago: Early drilling efforts: On March 9, 2007, the Calgary Herald re-published an article that had been run on March 9. 1907 concerning the role that the Federal Government was playing in the development of an oil industry in Western Canada through the funding of selected wells that were believed might open up the region as a new "petroleum province":

"Amongst the estimates for the year was an item of \$3000 to aid in experimental boring for gas or oil. It may not be generally known by the people of Alberta that this amount stands for a policy of the geological department of assisting private efforts in the direction of deep boring experiments for petroleum. At present there are three or four applications for such assistance before the department, and there is every likelihood of an additional amount being provided for such cases. Those engaged in the enterprise bore 1000 ft. without assistance. After that depth is reached, the department pays half the cost, not exceeding \$2.50 per foot. Any projects towards the discovery of petroleum wells, particularly in Manitoba, Saskatchewan and Alberta, are stated to be looked upon with extra favour by the department, especially as it is in such sections of Canada where it would be of great importance if a coal oil field should be discovered. ... Assistance will only be given to private companies ... if the area in which the well is being sunk is inside the district where petroleum can reasonably be expected to be found." (paraphrased)

Archives is published approximately six times a year by the Petroleum History Society for Society members.
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Back issues are archived on our website at www.petroleumhistory.ca
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CANADIAN PETROLEUM HALL OF FAME 2007 INDUCTEES

September 27, 2007 marked the latest induction dinner for the Hall of Fame and it was once again Calgary's turn to host the event following last year's festivities in Edmonton. A good crowd attended the ceremonies at the Westin Hotel where it was led through the stages by oil patch veteran and part time comedian Bill Mooney. The inductees this year and their accomplishments are described below and it is anticipated that their full citations will soon be on the CPHF website:

Clarence M. Christensen

Clarence "Chris" Christensen is a native Calgarian, born in November 1928. He launched his oil patch career with James & Reimer Trucking, Highland Exploration and Perforating Guns of Canada before joining Commonwealth Drilling in 1953 as a safety supervisor. This marked the beginning of his long and distinguished career in oilfield safety. Chris left Commonwealth in 1962 and started Standard Safety and Consulting Services Ltd., initially to provide consulting services to several drilling contractors. Soon, however, he began providing equipment and supervision for sour drill stem testing (DST) work and his company continued to grow with branches in many Alberta locations. Chris was called upon to provide services for difficult sour gas problems in Western Canada and overseas, and Standard Safety worked closely with oilfield firefighter Red Adair on several occasions.

Abraham Gesner

Abraham Gesner was born in 1779 in Cornwallis Township, Nova Scotia. Earle Gray provides an excellent treatment of his accomplishments in the article in this issue of Archives. An additional source of information is in the "Canadian Beginnings" section of the P.H.S. website. P.H.S. Board members Micky Gulless and Bob Bott were the nominators for Abraham Gesner.

James W. Kerr

Born in Hamilton, Ontario in 1914, Jim Kerr joined Canadian Westinghouse, Ltd. in 1937. There he rose to the position of Vice-President and General Manager of the company's apparatus products group in 1956. In 1958, immediately following the completion of the Trans-Canada Pipeline Limited system, Jim joined TCPL as President and CEO and three years later was appointed Chairman of the Board of Directors. He continued as Chairman and CEO until his retirement in 1979. Jim was instrumental in building the Canadian natural gas industry. Without his leadership, Canada's natural gas markets and delivery infrastructure underpinning those markets would have been structured very differently, to the detriment of the Canadian upstream natural gas industry, gas consumers across the country and the hundreds of communities that benefit financially from the presence of the pipelines.

Kenneth W. R. Vollman

Another in the long line of Saskatchewan farm boys to make it good in the Western Canadian oil patch, Ken was born in Macklin in 1944. Following an initial period with Mobil between 1965 and 1973, Ken enjoyed a long career with the National Energy Board. He became a full member in 1988 and served on panels hearing toll, export licence and new facility applications. In 1998 he became Chairman, continuing in that role until 2007. His involvement in the Sable Offshore Energy Project, the Alliance Pipeline Project and the Mackenzie Gas Project are noteworthy.

"Sulphur: From the Big bang to Big Boom and its importance to the Alberta Economy"

by Dr. Peter Clark, Professor of Chemistry, University of Calgary, and Technical Manager, Alberta Sulphur Research Limited. *A summary of the P.H.S. luncheon presentation of September 19, 2007*

Dr. Clark's address to the Society's luncheon on this date was excellently illustrated, well delivered and much appreciated by his audience that included a number of sulphur industry experts normally not in attendance.

Following a brief explanation of the stellar origins of sulphur and of its chemical properties, Dr. Clark described the similarities between carbon-based and sulphur-based compounds, their reactivities and how this explains their common co-occurrence in nature. The origins of hydrogen sulphide (H2S) in natural gas was linked to the presence of evaporitic minerals like gypsum and anhydrite in carbonate reservoirs and their chemical combinations with hydrocarbons.

The talk then moved into the history of sulphur-related technology on Alberta:

1920's	 Turner Valley oil: H₂S off-gases
1950's	 Sour natural gas discoveries and exploitation (CH₄, H₂S, CO₂)
1960 – 1980	 The era of the super-size sour gas plant 1,000 – 4,000 tons of sulfur per day
1970 – 2000	 Alberta controls the world sulfur export market with 40% share
1960 – 2007	 Super-sour gas [H₂S 50 – 90%]; waiting in the wings
1975 – 2007	 Oil sands bitumen: the next avalanche of sulfur
1975 —>	 Export of Alberta sulfur technology

Dr. Clark recalled the pioneering facilities at Jumping Pound (Shell), Pincher Creek (British American – Gulf Canada), Waterton (Shell), Wildcat Hills (Petrofina – PetroCanada) and Balzac (Canadian Occidental – Petrogas, Nexen). Besides many industry engineers, prominent individuals involved were Dr. Jim Hyne of the U. of C., Joe Lukacs of Western Research and Development, Jackie Hudson (stack climber) and Kevin Doyle (President of Sultran).



Crossfield Sulphur Plant, Crossfield, Alberta

March 1977. Image NA-2864-16300 courtesy of the Glenbow Archives.

Original photo by Bill Heriot for the Calgary Herald.

Caption: "Amoco process foreman Ross Oberg, at the Crossfield Gas Plant, shows the pipes and scrubbers of the more efficient refinery, improved to meet stricter environmental rules laid out by the Provincial Government". Improvements in sulphur recovery have been extensive and world leading.

A description of Alberta-based sulphur handling and shipment to international markets via the Port of Vancouver was followed by a description of Alberta "firsts" in sulphur technology":

- Large scale sour gas production (10 million tons of H₂S per year) (plus lots of CH₄)
- 2. Emissions monitoring and pollution control
- 3. Introduction of high efficiency tail gas processes (> 99% sulfur recovery)
- 4. Solid sulfur pelletization and distribution
- 5. Introduction of large-scale liquid sulfur degassing
- 6. Large scale solid sulfur storage (> 25 million tons in 1980)
- 7. H₂S disposal by re-injection into depleted reservoirs
- 8. The world's pre-eminent reservoir of sulfur engineering, chemistry and technology expertise

The talk closed with the memorable quotation "where there's sulphur, there are Canadians".

CELEBRATION OF THE 40TH ANNIVERSARY OF THE GEOLOGICAL SURVEY OF CANADA'S "INSTITUTE OF SEDIMENTARY AND PETROLEUM GEOLOGY" IN CALGARY (a.k.a. GSC - CALGARY)

On September 20, 2007, GSC - Calgary opened its doors to welcome the many people who have been associated with it over its fourty year history (1967-2007). Gathered in the foyer, the crowd of people had an enjoyable sandwich luncheon and listened to a series of speakers who addressed various aspects of the "Institute's" history. G.S.C. veteran Ward Neale cracked the whip to keep everyone on schedule so that the 3:00 p.m. treats could be served without delay. Your trusty correspondent, C. Tippett, provides a brief overview with an emphasis on things historical:

Several government bureaucrats were welcomed and their greetings from Ottawa were acknowledged. The artist who designed the concrete mural in the foyer then took the podium and described her experience in its construction and the concepts that lay behind it. Although it was often thought to depict government red tape, it was actually intended to try to capture the tapestry of Canada's geology. Sister organization Geological Survey of Alberta added its best wishes.

Ward then introduced several speakers more directly involved with GSC – Calgary. Don Stott, who had been its second director following Yves Fortier, recalled the early camaraderie of the staff. He was followed by Nat Rutter, more recently of the U. of A. who described geologist Win Irish's encounter with Minister Jean Luc Pepin at the opening of the facility while absentmindedly holding a large dish of dog food.

Ian McIlreath of Encana brought salutations from downtown Calgary on behalf of the big companies. Many successful cooperative technical projects were recalled. Smaller oil and gas concerns also expressed their appreciation through entrepreneur Paul Gagnon.

The academic aspects of the research equation vis-à-vis the next store neighbour University of Calgary were addressed by Drs. Charles Henderson and Norm Wardlaw. The very strong mutual support of the two organizations was mentioned, in particular the now much diminished ability of the GSC to offer promising students summer employment as junior and senior assistants in the large field parties once funded by the Federal Government. Many oil patch members cut their eyeteeth on such expeditions and the general absence of opportunities for such experiences today was lamented.

Many other speakers came forward, some in a planned manner and other spontaneously. Mike Cecile described the range of current projects that are being undertaken. Representatives of the Calgary Public School Board, the Calgary Separate School Board and the Calgary Science Centre recognized the efforts of Godfrey Nowlan in the area of school-based education. A moment of accidental humour occurred when the last named representative stated that the GSC and her organization were "inexplicably linked". One supposes that she meant "inextricably linked." Surface mapper Rudi Klassen recalled the vast tracts of Canada that he had examined from his base in Calgary. Several of the technical support staff applauded the "family atmosphere" at GSC - Calgary. Probably the most touching tribute was provided by GSC scientist Margot McMechan who described her aspirations of following in the footsteps of GSC giants like Bob Douglas and her success in doing so with the support of her GSC co-workers.

Petroleum's transforming history and the global warming threat

By **Earle Gray**, for presentation to Durham Canadian Club, Oshawa April 8, 2007, first section only. *Thanks to Directors Frank Dabbs and Bob Bott for coordinating with Earle for this publication.*

This afternoon, I'd like to explore with you three aspects of petroleum. First, how it plays a bigger role in your everyday life than you might suspect. Secondly, the pioneer role that Canada played in launching the global petroleum industry. And finally, dealing with our biggest environmental threat, the global warming caused by burning fossil fuels -- coal, oil and natural gas. So, here comes a question. Does everyone here enjoy eating beef? Perhaps not every day, but at least frequently. Hands up everyone who enjoys beef. Our farmers would be delighted to see so many beef eaters.

Now look at this. (Hold up jar with oil). That's how much oil you consume when you eat just six ounces of beef. It takes almost a quart of oil to fuel farm machinery and for fertilizer to feed and raise a steer, and finally serve a tiny slice of him on your plate. I mention this because when we think of oil and gas, we tend to think just of gasoline for our cars or natural gas to heat our homes. But oil and gas -- and I mean natural gas, not gasoline -- play much bigger roles in our everyday lives. They have become fundamental to the basic necessities of life. Just the bare necessities, as Phil Harris sang in the Disney movie, The Lion King. When I went to school, the basic necessities meant food, clothing, and shelter. I've already mentioned food, and while beef is more energy intensive than most, it's hard to think of many foods that are grown and harvested without the aid of petroleum.

So let's look at the second necessity, clothing. I'd like you to take a good look at the clothes I'm wearing. Wave imaginary magic wand than would vanish all clothing made in whole or part from petrochemicals leaving me, and many in the audience, semi-nude.

How about that third basic necessity, housing. Let's pretend to wave that magic wand over your house. There go your asphalt shingles. If your house has vinyl siding, it's gone. So is the insulation that helps keep the house warm in winter and cool in summer. Inside, your television sets and your computers, and a good many other things have collapsed in heaps of rubbish. And you better not flush that toilet, because all that PVC piping in the basement has vanished. It doesn't matter anyway, since what is left of your house is going up in flames, because there's no insulation on the electrical wiring.

The role of oil and gas in providing these basic necessities is only part of the story. Consider, for example, the economic effects. And farming is an excellent example of this. Petroleum has largely fuelled the mechanization of farming, as well as helped fertilize it. A century ago, half the work performed in Canada was farm work. Today, it takes less than three percent of our labour to grow all our food. The rewards of that agricultural revelation are enormous. We seldom recognize how much the achievements of our farmers have contributed to the prosperity, the opportunities, and the social benefits we enjoy.

Enough about how petroleum has transformed our lives. Let's move on to how it all started.

The United States, Britain, France, Romania, and Poland, among others, have all laid claims as the birthplace of today's global petroleum industry. In truth, it was born in the minds and efforts of a good many people in a good many places. But no country played a more leading role than Canada.

Two years from now, the United States will celebrate the 150th anniversary of what many Americans believe was the first commercial oil well in North America, if not the world. It was drilled in 1859 by Edwin Drake at Titusville, Pennsylvania. But a little more than a hundred miles north, on the banks of Black Creek near the southwest tip of what was then Canada West, a carriage maker from Hamilton had already been producing oil for more than a year, from a well completed in July, 1858. So next year, we in Canada will celebrate the real 150th anniversary of North America's first commercial oil well, near the village of Oil Springs, Ontario. James Miller Williams, the former carriage maker from Hamilton, did more than just bring in an oil well. He also established the continent's, if not the world's, first successful, integrated oil company, established expressly to produce crude oil, refine it into kerosene, and market it as a lamp fuel.

Yet Canada's role in the birth of the petroleum industry actually began more than a decade earlier with a remarkable Nova Scotian, Abraham Gesner. Gesner was many things in his lifetime: farmer, physician, geologist, chemist, a very popular lecturer, and inventor. In his youth, he was even briefly a horse trader, shipping old Nova Scotia nags otherwise destined for the slaughterhouse because of a drought-induced feed shortage, to the West Indies where they might be sold for cash. Gesner travelled with the horses, working as a deckhand on three voyages. Two of the voyages ended in shipwrecks with the loss of the horses and the near loss of Gesner and the other sailors.

On the first of his voyages, Gesner visited a fabled "pitch lake" at Trinidad, a large pool of sticky, black asphalt or bitumen -- originally crude oil that gravitated from its deeper bed of rocks to the surface where it dried out, from liquid to tar. This Trinidad bitumen fascinated Gesner's insatiable, intellectual curiosity, as did many other things. For decades, when he wasn't too busy as a farmer, doctor, geologist, or engaged in other pursuits, Gesner experimented with distilling bitumen. He wasn't the first to distill a lamp fuel from some form of fossil fuel: coal, bitumen, or crude oil. Europeans, to some extent, had already done that, as Gesner was the first to acknowledge. But he built upon their work with some 2,000 experiments involving different procedures of distillation and treatment.

On June 19, 1846, at a public lecture in Charlottetown, Gesner gave the first public demonstration of his experiments. Using bitumen from Albert County in New Brunswick, Gesner demonstrated a new fuel for light that he named kerosene. Kerosene was soon destined to become, for half a century, the principal source of light in homes, offices, stores and other buildings around the world. Today, kerosene fuels jet aircraft.

Shift now to New York City, 1854. The North American Kerosene Gas Light Company is building a large refinery to produce kerosene using the process developed by Gesner. It is the first plant in North America to produce kerosene, and far larger than any of the few European plants producing a somewhat similar lamp oil. This New York plant produced kerosene not from bitumen, but from coal. By the time Williams and Drake completed their oil wells, there were more than 30 refineries in the eastern United States turning out kerosene in a booming, new industry. We still sometimes call it coal oil, even though kerosene hasn't been produced from coal for nearly a century and a half. We continue to use coal oil lamps, in our cottages, our camps, or in our homes as backup light when the power goes out. And I suspect that I am not the only one in this room in whose home, as a small child, the only sources of light came from gasoline and coal oil lamps.

The importance of Gesner's contribution to the birth of the petroleum industry is that, building on the works of others and his own experiments, he laid the foundation of a refining industry that gave immediate commercial value to the oil wells of Williams and Drake and their thousands of followers. Kerosene could be produced from crude oil at a fraction of the cost of distilling and refining it from coal or bitumen. Almost overnight, those coal oil refiners became crude oil refiners, fed from the oil wells in Canada West and Pennsylvania. Hundreds of tiny new plants sprang up almost overnight, expressly to process crude oil, not coal or bitumen. And the first of new oil refineries -- if we can call them that -- was the plant of James Miller Williams at Oil Springs, later moved to Hamilton. The petroleum industry was off to a fast and very turbulent start.

That's very much a nutshell history of the birth of the oil industry. It omits a great deal, because we can't stay here until suppertime.

A Well Named "Stella" by Sandy Gow, Concordia University College, Edmonton.

As the Canadian Pacific Railway advanced westward in the 1880s it established a rail centre at Medicine Hat, where one branch went northwest to Calgary and another straight west towards Vancouver. One problem faced by the town was a shortage of heating fuel. In an attempt to locate coal, several local businessmen sank a shaft nearby but instead found a large flow of natural gas. This prompted town officials to approach the C.P.R. with a view to drilling deeper wells for more of the same. Sir William van Horne, President of the company, offered to lend the town a cable tool rig if it would absorb the cost of drilling. The town accepted, and a considerable flow of gas was encountered at about 650 feet, with a closed pressure of 250 pounds, but it was accompanied by a large amount of moisture. In hopes of obtaining a larger supply free from moisture, deeper wells were drilled and the present gas pay was developed in a well near the city at 1,010 feet showing a closed pressure of 550 pounds. This became the "Medicine Hat Gas Sand", a sandy member of the Colorado, about 250 to 300 feet below its top. The town drilled some municipal wells, but the pressure in the first ones was too low to supply all residents. Many citizens, enthusiastic about the idea of cheap heat, decided to drill for their own domestic supply, improvising some shockingly unsafe arrangements. (Sixty-five wells were drilled in the town or immediate area, and 19 others outside. Not all wells drilled were recorded.) The fire hazard was high and explosions were frequent, thus providing the local hospital with patients. However, by 1904 the field was developed, and if you had drilled it you got to name it: after streets and buildings ("Main Street"), people ("Stella"), owner's homes ("Balmoral"), and companies ("Dominion Glass Company No.1"). As a result of the initiative of the town and its citizens, Medicine Hat became the first urban area with a gas utility in western Canada.

Thanks to P.H.S. Award winner Sandy Gow for this contribution.

HISTORICAL DISCUSSION

Re: Article on p. 10 ARCHIVES, Volume XVIII, Number 5, September 2007

The answer to Breen's inquiry and Finch's article are readily found in my books *"Leduc*", pp. 147-165, and *"Redwater*", pp. 157-175, Appendix XVIII.

The driving force in all of this was a newly appointed Deputy Minister of Mines and Minerals, Hubert H. Somerville. He had realized very early the significance of Crown reserves.

Somerville reported directly to Premier Manning on a daily basis and the Premier gave him full authority to run his department. Hubert's prowess was to manage industry. He instinctively knew how to deal with landmen who, in turn, respected his firmness and good judgement.

I was privileged to have several interviews with Hubert and he revealed interesting facts, some of which are to be found in my texts.

Aubrey Kerr September 22, 2007