

OPUNTIA 375

Early May 2017

Opuntia is published by Dale Speirs, Calgary, Alberta. It is posted on www.efanzines.com and www.fanac.org. My e-mail address is: opuntia57@hotmail.com When sending me an emailed letter of comment, please include your name and town in the message.



THE FINAL FRONTIER IN PHILATELY

by Dale Speirs

Last year Canada Post issued a set of stamps for Star Trek on the occasion of its 50th anniversary, honouring the Canadian actors in the series. Those stamps and the multitudinous products associated with them became the best-selling philatelic issue Canada Post ever had. See OPUNTIA #341 for the stamps and #342 for a trip report to Vulcan, Alberta.

Striking while the iron is hot, Canada Post issued another set this year on April 27, memorializing all the Star Trek commanders. They have also decorated many of their delivery vans. The photos at right were taken at the Calgary Comic Expo parade on April 28, which I reported on in the last issue. Actor Garrett Wang rode in the van but he was on the opposite side from me so I couldn't get a photo of him.

The Calgary Comic Expo was held at the Stampede grounds April 27 to 30. Canada Post had a booth in the dealer bourse and there are no prizes for guessing why. Not that I would ever attend such an event, with 80,000 cosplayers, but it cost hundreds of dollars for admission and sold out long before.



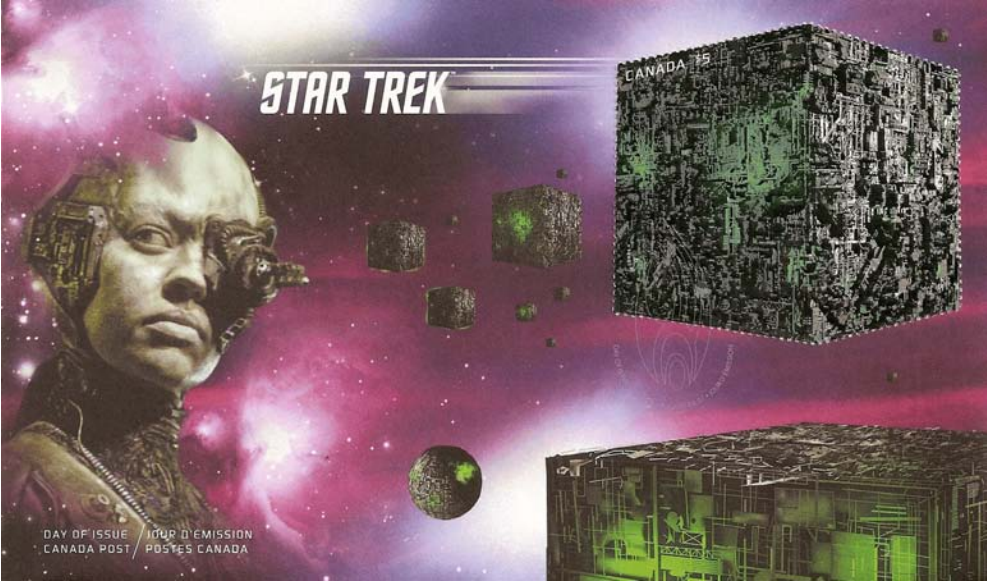
The first-day-of-issue covers were all postmarked in Vulcan except the one with the William Shatner stamp. It was postmarked in Montreal where Shatner was born and raised. The booklet of stamps is shown below; the other images are scans of the covers and graphically cropped enlargements of their stamp and postmark.

Besides the P-rate (domestic mail) stamps of the commanders, there was also a coil stamp of the Galileo shuttlecraft and a large-size \$5 stamp of the Borg cube.

Ordering information can be had from www.canadapost.ca. You can also download a free pdf of Canada Post's magazine DETAILS, the April 2017 issue, which is devoted to the Star Trek issue. (Confusingly, there are two April issues, the first of which is for the Vimy Ridge stamp. The Star Trek issue is Volume XXVI No. 4.) Go to:

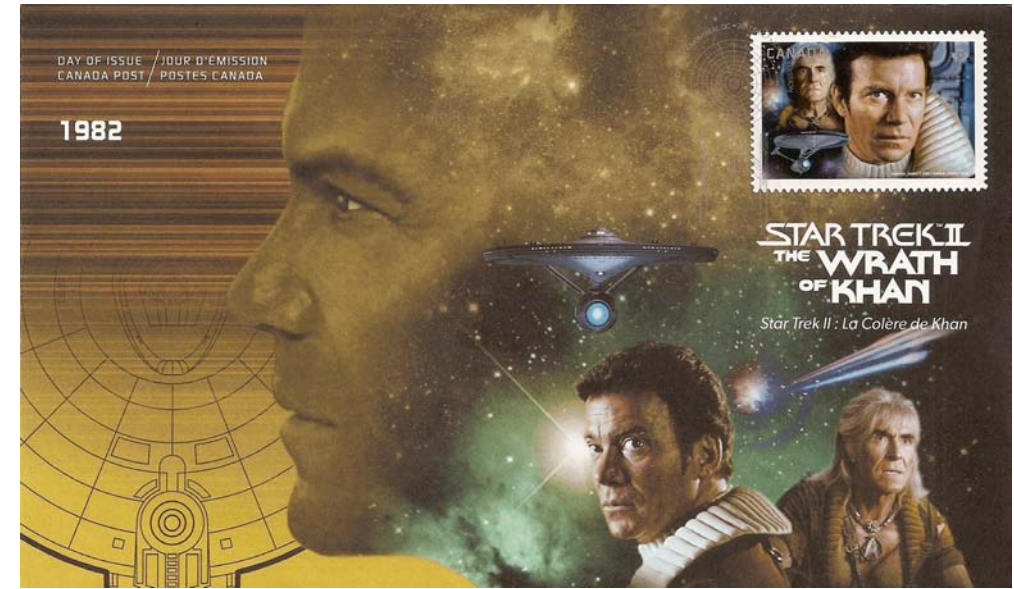
www.canadapost.ca/web/en/blogs/collecting/details.page?article=2014/07/23/ourpublications&cattype=collecting&cat=details

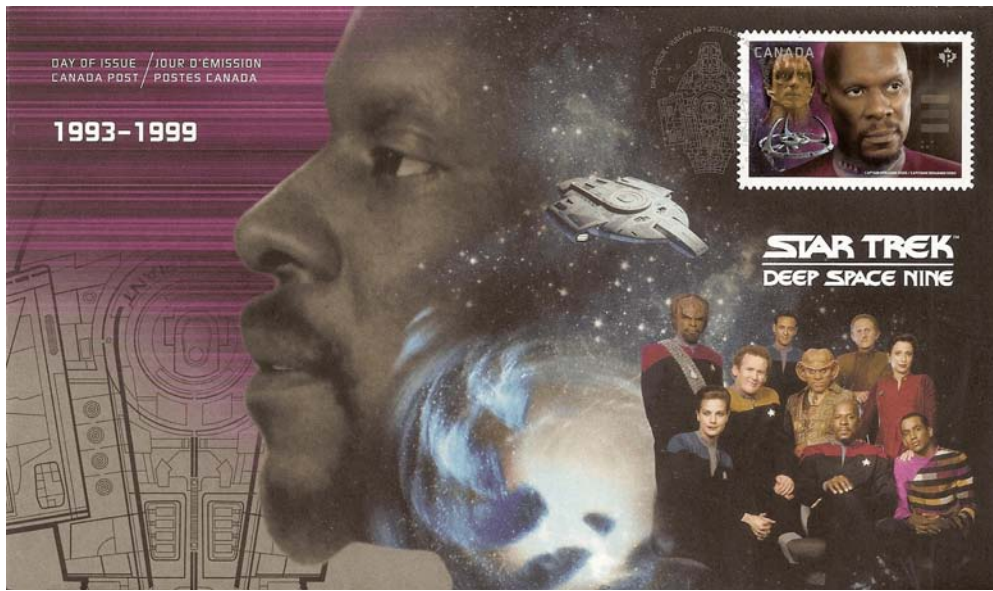
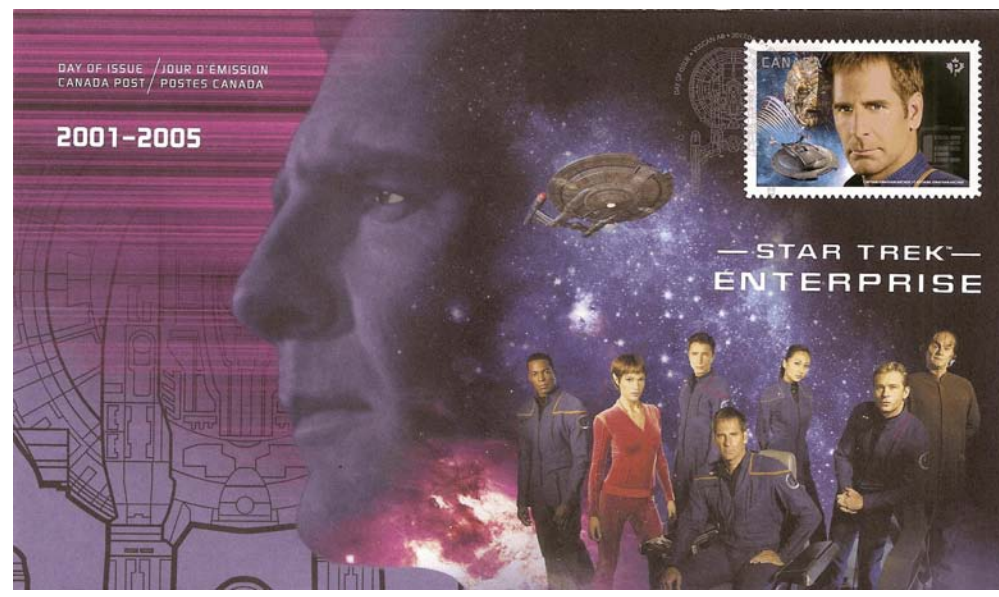
(None of these scans are real-size; all vary in scale so as to fit the page.)





Each of the commander stamps also depicts one of their enemies in the background.





On the reverse side of the backing paper of the Galileo coil stamps, there are quotes by the various commanders. These were ink-jet sprayed and barely legible; I had to fiddle with the contrast to make the scans readable. They are shown on the next page, reading from the start of the coil to its hub. None of the quotes are repeated.

"Set a course ... for home." – Kathryn Janeway | "Let us make sure history never forgets the name, Enterprise." – Jean-Luc Picard
« Changez de cap. On rentre à la maison. » – Kathryn Janeway | « Faisons en sorte que l'histoire garde en mémoire le nom de l'Enterprise. » – Jean-Luc Picard

"There's only one order, Lieutenant. We hold." – Benjamin Sisko | "If anything happens to Porthos ..." – Jonathan Archer
« Je n'ai qu'une seule consigne, lieutenant. Tenir bon. » – Benjamin Sisko | « Si par malheur il arrivait quelque chose à Porthos... » – Jonathan Archer

"We're Starfleet officers. Weird is part of the job." – Janeway | "Tea, Earl Grey, hot." – Picard
« Nous sommes des officiers de Starfleet. Le bizarre fait partie de notre travail. » – Janeway | « Thé, Earl Grey, chaud. » – Picard

"We can't be afraid of the wind, ensign." – Archer | "Listen carefully, because I'm only going to say this once. Coffee, black." – Janeway
« On ne doit pas avoir peur du vent, enseigne. » – Archer | « Écoutez-moi attentivement. Je ne vous le dirai pas deux fois. Café, noir. » – Janeway

"Make it so." – Picard | "I don't believe in a no-win scenario." – James T. Kirk | "Battle stations!" – Sisko
« Exécution. » – Picard | « Je ne crois pas à l'impossibilité de gagner. » – James T. Kirk | « Tous aux postes de combat! » – Sisko

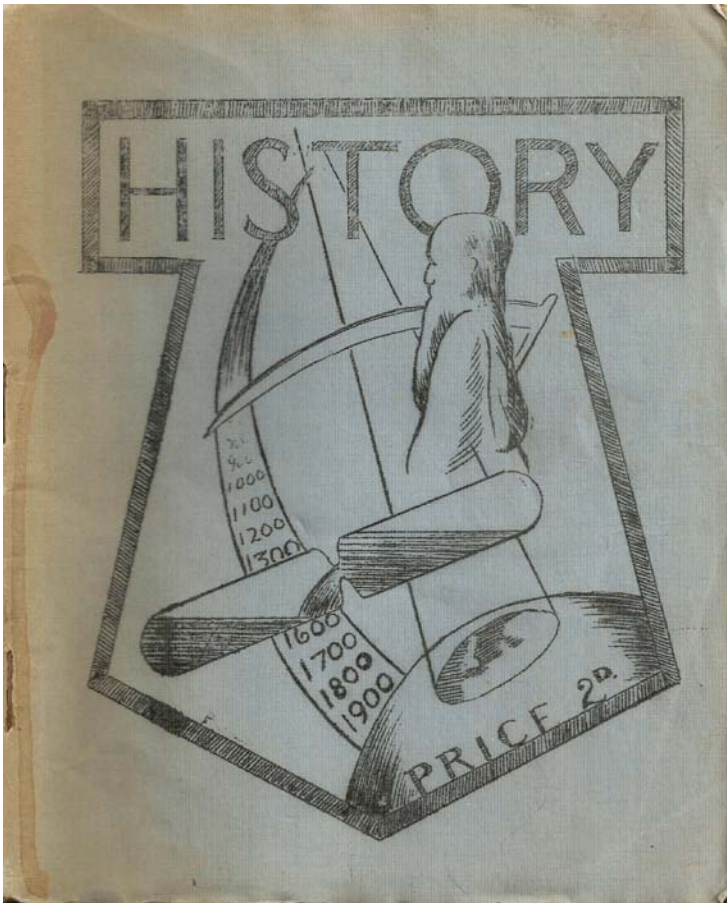
LITERA SCRIPTA MANET AND MAGAZINES OF YORE: PART 6
by Dale Speirs

[Parts 1 to 5 appeared in OPUNTIA #365, 366, 368, 371, and 373.]

Alternative History Of 1938.

I was browsing at an auction when I spotted a box of old books and magazines. They weren't of interest to me save for one, a 1938 mimeographed zine from England. Not wanting to buy the full box just for a single item, I approached the successful bidder after the auction and made him an offer for the zine, which he accepted.

Thus it was that I came into possession of HISTORY #1, published by the Goole Grammar School Historical Society and dated 1938 July. The zine is 18 cm x 22.5 cm, roughly digest size. I did a quick search on the Internet. The school is still in existence, now the Goole High School, in East Yorkshire, England.



How it came to Calgary was probably through an Old Boy who emigrated after the war and brought along the copy for nostalgia's sake.

This isn't the first time I've found old school magazines far, far away from their origins.

The point of interest for me in the zine was that it had a batch of alternative histories by its students.

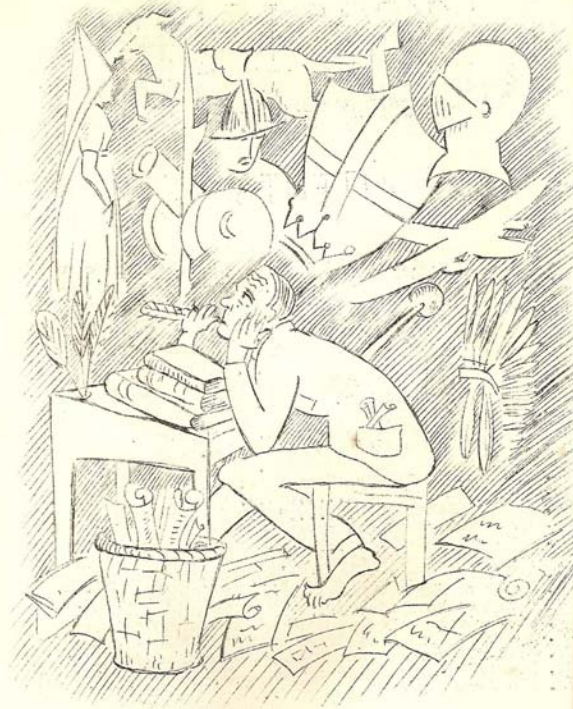
HISTORIENS

BEING THE JOURNAL OF THE GOOLE GRAMMAR SCHOOL
HISTORICAL SOCIETY.

CONTENTS

Page	
3.	Editorial.....E.Mahalski and F.Hall, Jun.VI.
5.	Whitgift and its Church....I.Clark,Old Pupil.
9.	The " Ifs " of History.....
10.	1) If Corsica had been a British Island. E.Mahalski,Jun.VI.
13.	2) If the Germans had taken Paris in 1914. J.S.Greaves.VA.
15.	3) If Sir Robert Peel had not established the "Peelers". L.Hall.VA.
17.	4) If Cromwell had been killed at Marston Moor. W.Pattison.IVA.
19.	5) If Mussolini lost his Voice. M.Holman,Jun.VI.
21.	Poem....William the Conqueror...M.Wormald.IIA.
22.	The Origin of Goole..... C.A.Maw.VA.
25.	"Did you know that....." B.Temple.Sen.VI.
26.	Queen Elizabeth and the Armada...N.Mahalski.IVA.
28.	Howden in the Past..... J.Mapplebeck,Jun.VI. D.Mapplebeck.IVA.
31.	Is Royalty an Anachronism.Today?...J.S.Greaves.VA.
32.	Reply to "Is Royalty an Anachronism" F.Hall,Jun.VI.
34.	"Did you know that....." B.Temple.Sen.VI.
35.	Historical Howlers.
36.	The Story of Greece told by Stamps.D.Hopley.IVC.
37.	Postage Stamps of Great Britain.E.A.Hart.IVA.
38.	Leprosy during the Middle Ages...M.Cannon.IIC.
39.	The Seven Histories of Man....."Finale"....

I won't comment on the AH stories. They were written by schoolboys eight decades ago who are now long dead.



HISTORIENS

Vol. I. ----- July 1938 ----- No. 1

EDITORIAL

We present the first edition of our History Magazine, which we have decided to publish twice yearly, in the hope that the articles will be of interest to you; but, if you find them feeble or irrelevant, pause and reflect, before you condemn. Think of the would-be author, (pictured by our art editor as the frontispiece), with heated brow and harassed visage, chewing his pen as he woos the elusive muse. His thoughts soar in winged flight, but alas, how often do they descend with the sadness of suet-dough! But is not suet-pudding good for growing children? We are told so. Read on, then, and inwardly digest.

.....

We have attempted to cater for varied tastes. The ardent philatelist will probably find enjoyment in the myths and legends woven around his prosaic album. The ancient histories of our local towns and villages, compiled by patient research from rusty tomes and interrogation of hoary ancestors should also prove enjoyable and amusing. The budding poets have done their best, too; who knows that we may not be harbouring a potential Poet Laureate in our midst? If the hysterical howlers do not make you howl, administer an emetic, and send for a doctor immediately. On the other

THE "IFS" OF HISTORY.

Our artists, and five literary contributors present you some of the "might have beens" of history.



" If Corsica had been a British Island!"

There was born in a little room in Ajaccio, on the island of Corsica, on August 15th., 1769, Napoleon, the second surviving son of Charles Bonaparte and his wife, Marie.

The Peace of Paris in 1763 had set the seal upon England's destiny as the great colonizing and imperial power. Among other Mediterranean islands England had procured from France.....Corsica.

The Bonapartes were of Italian origin, two hundred and forty years before Napoleon, but they were so Corsican that they were neither Italian nor French nor English in sentiment. However, young Napoleon left Corsica at the age of nine, to be educated in England as a soldier. He was small, slight and had a dark-skinned Italian appearance. But his comrade students of war, however critical they might feel of his appearance, could not deny that he was a diligent student of his profession. Napoleon was sent to India to quell native risings, and there met Arthur Wellesly, born in the same year as he, and a rising young general.

In 1789 when Napoleon was twenty, Europe was startled by the outbreak of the French Revolution. At first Napoleon, together with many other Englishmen, approved of it, but when England's own existence was eventually at stake, he set himself grimly against the wild folly of the Reign of Terror.

France had declared war on England at the beginning of 1793. The French army had enthusiasm in plenty but no guiding force to direct it to victory. The English fleet, under Nelson, occupied Toulon harbour on behalf of the Royalists, who held the town, and at length took it and the neighbouring countryside.

Massena, the leading French general, debated as to where he could best strike a deadly blow at England, even while she held command of the seas and the North. He decided that her vulnerable point was India, where she had now become the predominant power, though unceasingly harassed by natives; and so Massena began his enterprise by landing troops in Egypt, to hold it as a half-way house. Nelson

sailed to Egypt and near the mouth of the Nile, he sank or took the whole French fleet, leaving a huge army stranded in Egypt.

Napoleon who by his forceful personality and military skill, had eclipsed the fame of Arthur Wellesley, was recalled from India to Europe to complete the conquest of France. The attack was entirely successful and Louis XVIII was re-established.

Napoleon, however, thirsted for even more military glory and civil power. While Wellesley, the only man who might have prevented him, was defeating the Mahrattas in far-off India, Napoleon and his army seized power in England; monarchists and democrats alike fled to France, leaving him Dictator of Britain and the Empire, and virtually of Europe since France alone opposed his demands. The ill-organized resistance was soon overcome.

In his twenty eighth year, 1797, Napoleon "bestrode the narrow world like a Colossus"! All who opposed his views were thrown into concentration camps. Pitt and his associates, who had been allowed to go free provided that they did not attack the Napoleonic Regime, were caught conspiring during the compulsory physical jerks for the unemployed, and were imprisoned. Under the Dictator, or Leader as he styled himself, science progressed rapidly. Aeroplanes and armaments were being mass-produced, for Napoleon planned to conquer Asia before his thirtieth birthday. A great demonstration was staged in Hyde Park. The march past lasted well over an hour, with the Leader and his retinue tirelessly at the salute. Fleets of armoured cars and munition lorries, squadrons of light tanks, heavy tanks, amphibian tanks, field batteries and enormous siege guns passed by in endless procession. Overhead the aeroplanes droned ceaselessly.

At length the Leader arose to begin his speech. He energetically raised his right arm; the crowd saluted in response " Bravo Bonaparte!!!" He spoke briefly. The event of the afternoon he told them, was the demonstration of a new weapon, called the Bomb. For the experiment the bomb had been filled

with sneezing powder to which had been added a mixture of measles germs. The demonstration was to be staged about half-a-mile to the leeward of the spectators.

A platoon of ex-cabinet ministers specially chosen for their sensitivity to hay-fever had been marched out on to the demonstration ground. The Bomb dropped right in front of its allotted victims. They were contorted with sneezing. The Leader was jubilant at the success of the experiment. "If I'd known it was going to be like that I'd have asked for a squad of men from the nearest concentration camp....." The Leader paused seeking a handkerchief. The Leader sneezed; violently, twice. Recalling his dignity, he raised his arm. The crowd dutifully replied "Bravo Bonaparte!!!" The sneeze became universal.



The next day the Bonapartists had the measles. The infection spread, until every one had measles. A negro saxophone player in Bolivia saw his chance (he had watched through television) and seized it. Organizing an army of crooners and saxophone players he invaded England. All true Englishmen died in violent spasms of sneezing and wailing.... except one man in a concentration camp.... a very deaf old man.... stone deaf in fact. He was Pitt.

The saxophone players carried him weeping to Dover, leaving all his countrymen dead or dying a horrible death. " My country," he murmured, " how I leave my Country!"

E. Mahalski.
12.

" If the Germans had taken Paris in 1914."

On the 15th of November, 1914, Germany's army took the French capital, after a steady and unfaltering advance from the outbreak of war in August. The Allied forces, powerless to resist the marvellous fighting machine which Prussian militarism had built up, were retreating rapidly, and the capture of Paris marked the beginning of the end. Resistance continued for some months, but the taking of Calais followed that of Paris, and the blocking of the English Channel brought the war to a speedy conclusion.

So Europe was conquered, and the first step in Kaiser Wilhelm's plan for world domination had been taken successfully.

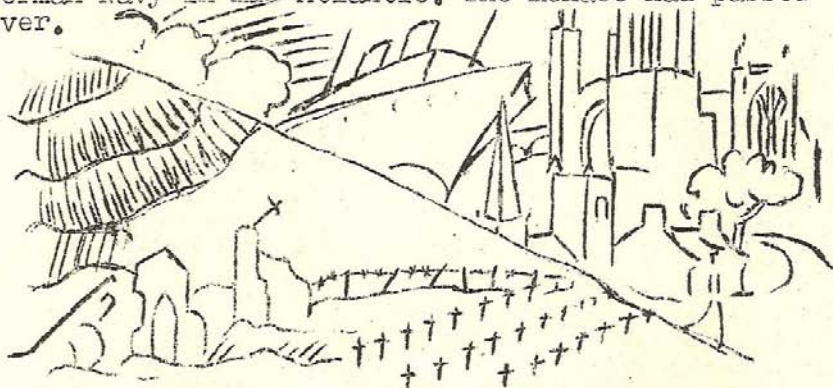
The Kaiser now declared his intention of forming the conquered countries and their overseas possessions into a part of his World Empire. At this the United States of America, which had not taken part in the European War, opposed any idea of annexing Canada. Immediately, the Kaiser, who had been playing for this excuse to take the second step in his scheme, declared war on the United States. And in order to ensure, as he hoped, a successful outcome to his second step, he placed Britain and France under military law and commenced to train their young men on the lines of the Prussian army. The rest of the world looked on in uneasy silence.

As no machine which could cross the Atlantic by air, had been constructed at this time, America and Germany both commenced a feverish activity in their ship-yards; and Germany commandeered the battleships of Britain and France, but manned them herself.

At the time, it looked ominously like another German victory. Think what that would have meant. With Europe and America conquered, the world would have been at the Kaiser's feet. The German "Kultur" would be inculcated into the children everywhere. In other words, the vast majority of the world's population would have been hopelessly, irretriev-

ably Prussian in outlook. Parents would have taught their children to welcome war, because of the "honourable" scars and the inhuman discipline it gives. A race of cold-blooded supermen would have sprung up, and humanity and art have gone to the wall.

But the Kaiser forgot one thing: the spirit which binds together all oppressed lovers of liberty. When the German navy sailed for America, the apparently cowed soldiers who formed the German army in Europe, rose as one man, killed their Prussian officers, and overthrew German power in Europe. At the same time America defeated the German Navy in mid-Atlantic. The menace had passed over.



But now the whole world had seen the terrible possibilities of powerful armies and rival countries. Was it likely that it would go back to its former state? No! Humanity everywhere was roused, and by the pressure of universal demand a World State was created, under the control of a World Parliament. National boundaries became as county boundaries in the Britain before 1914. Science and Art, working hand in hand, opened the gateway to a new Golden Age of prosperity and human achievement.

J.S.Greaves.

14.

"If Sir Robert had not established the 'Peelers'"

I suppose every-one knows, or has at least some vague idea, that the Metropolitan Police Force was founded by Sir Robert Peel to check a state of rampant criminality almost unbelievable to the modern mind. The establishment of this Force was at least one hundred years overdue then, so just try to imagine what a chaos the London of the present day would be in, if there were no policemen to preserve law and order.

The highwaymen, associated with the days of Dick Turpin, would still be in existence, and although, in these modern times, we have no slow going stage coaches for them to hold up and search, there are still plenty of pompous wealthy citizens they could knock down, murder and rob. The light fingered gentry would still ply their trade dexterously in every busy street, and stage street brawls to collect crowds and distract attention from their pilfering of watches and wallets. The footpad would still lurk in every side street and alley, enforcing his demands with brutal violence, secure in the knowledge that within a few yards there was sure to be a safe retreat or hiding-place.

Burglary and housebreaking would be everyday occurrences, and would be performed with greater daring if the criminal was certain that no strolling police man on his beat, would be passing that way.

Whole areas of cities and towns would be inhabited solely by criminals and no honest man would dare to venture into those networks where every form of villainy would be practised and where every variety of vice could be indulged in.

Every district would have its thieves' den and its receiving shop, where, in exchange for money, thieves would bring their pilferings. Some of the public-houses would be little more than rendezvous for highwaymen, housebreakers, cardsharps and counterfeit coiners. The practice of counterfeit coining would be still carried out on a prodigious scale as in 1790, only perhaps the customer is more wary than in those days, when every hackney coachman

15.

had a base half-crown in his hand ready to return to his unwary passenger.

Now, just for a moment, let us imagine we are in London, one of the world's busiest cities where vehicles of all sizes and one might also say shapes, are incessantly passing to and fro. As most of the male drivers these days are reckless and full of ideas of speed, can you imagine what would happen at every dangerous corner and cross roads? What a large number of accidents there would be if there were no "men in blue" on point duty, or no kindly faced "Bobbies" to guide the children coming home from school, across the roads.

I might therefore conclude that if Sir Robert Peel had not established the "Peelers" or as they are still known to this day, the "Bobbies", none of us would ever feel safe and I'm sure the girls, if

not the boys, would be much too frightened to venture far in the winter months of the year. So, although the London Police, and for that matter the police all over the British Isles are often held up to ridicule, we must admit that we feel and are much safer now than we should have been in those days of prevalent crime during the eighteenth and early nineteenth centuries. Perhaps you will understand why I conclude.....



"AREN'T OUR POLICEMEN

WONDERFUL!"

L. Hall,

16.

"If Cromwell had been killed at Marston Moor!"

In the battle at Edgehill, and in other battles which followed, the Parliamentary troops had the worst of it. This was because the Royalists were, for the most part, gentlemen trained in the use of arms while the Parliamentary troops were "most of them old, decayed serving men and tapsters and such kind of fellows" as Cromwell said. So while fighting battles, Cromwell set to work to form such an army.

Cromwell's "Ironsides" as they were called, trusted and loved this man with the sharp voice and keen, blue eyes. Although only a Puritan with the simple, unaffected outlook of his sect, hating pomp and show and living a quiet orderly life, it was largely due to his energy and efficiency that Parliament proved successful up to 1644.

In 1644, however, came the battle at Marston Moor. Newcastle, who had been besieged in York by the Scots and by Fairfax and Manchester, was relieved by Rupert and shortly afterwards a great battle was fought between the combined Royalist and the Parliamentary forces. Before the fight, Cromwell, as his custom was, walked around the Parliamentary camp and spoke cheering words to his men, as they made their preparations.

At seven o'clock in the evening, Cromwell charged. He defeated, with the aid of the Scottish horse, Rupert's cavalry. As he was wheeling round to the aid of the Scottish infantry in the centre, who were hard pressed, his horse stumbled and threw Cromwell heavily on to the ground, breaking his neck.

With his death, the "Ironsides" lost confidence, panic spread amongst them and they retreated in disorder, and the day was lost. Cromwell had been the embodiment of their cause and ideals. The loss of his inspiring personality and practical common-sense was a large factor contributing to the Royalist success at Marston Moor.

The Royalist army quickly followed up its success and soon the Civil War was over. The fight for despotic monarchy had been fought and won.

Amid general rejoicings, Charles rode into London.

17.

Few events can have been received with so much enthusiasm and so much subsequent disappointment. For Charles, more than ever, was determined to be an absolute monarch. He was determined to make it impossible for the Puritans to rebel again. He behaved with barbaric cruelty. Puritans who steadfastly refused to renounce their faith were condemned to death or to slavery abroad without a proper hearing and the roads outside London were lined with gallows. People who had no sympathy with these Puritans were horrified at his cruelty. Charles levied more and more taxes. Soon the country was groaning under oppression. The traditional rights of the nation were fading away. Charles became tremendously unpopular but the country could do nothing. The king ruled by the sword and the sword alone.

Then, on one dull December day in 1654, England's history was changed. The king was returning to the Palace after a conference at Westminster, with his statesmen. The crowds that lined the streets watched the procession in sullen silence. Suddenly, out of the crowd sprang a man who leapt towards the king, and, raising his right hand in which was clasped a dagger, brought it down with all his strength, and before the soldiers could reach the assassin, Charles the last of the English kings, lay gasping his last on the road.

Parliament came into power again. Its members represented every section of the community, and no man contested its rights. From 1654, exactly ten years after Cromwell's death at Marston Moor, England has been a country without a king.

W. Pattison.

18.

"If Mussolini lost his Voice"

In Italy things had reached a turning point, and Signor Mussolini had summoned the Chamber of Deputies before him, to stir them into action and to issue his instructions to them. He stood before that gathering, a commanding figure, the maker of modern Italy; the man who by his great vigour and physical force had wakened to life his sluggish countrymen and had led them in the daring exploits which had made Italy a great factor in international affairs. But he was quick to realize that it was only his own personal vigour, oratory, and superb daring and pugnacity which kept him in his place at the head of a discontented country. It was to renew his power that he stood there.

He began his speech quietly enough but soon he could no longer control his passion and broke out into frenzied eloquence. "We must not mind foreign opposition! We must fight any who dare challenge us, we must strengthen the position we have earned in world affairs! We must.....!!!" But what they must do the Chamber of Deputies never heard. It was as though some great power had said "Peace, be still!" and the raging torrent of words had ceased in its angry flow. The voice that one short moment before had thundered in passionate anger through that hall, was silenced for ever.

After trying in vain to speak, the great Dictator, with a gesture of defeat, rose and left the hall, leaving a wondering assembly behind him. But the mind that had roused the Italians from their lethargy could not fail to realize that his course was almost finished. He had set off at a speed too great to be maintained, but winded as he was, he meant to do his utmost to keep his position at the fore. But he knew that others, others whom he had made, were catching him up and almost overtaking him. Signor Grandi, Count Ciano, and General Balbo would all try to assert their authority over the dictator who for so long had ruled them all.

The Italian nation received the news with mixed feelings. But the callousness and heartlessness

19.

which were the products of Mussolini's preaching, soon stifled all feelings of pity. After a few months of sympathetic loyalty, the nation got tired of listening to speeches by Mussolini's son, speeches which although written by Mussolini were not delivered with the same energy and rhetorical power as when the Duce himself spoke. The people gradually dropped back to sleep and let the men at the head of the state fight out among themselves who was to rule. They were ready to support the man who gave the most.

The once omnipotent Duce looked on helplessly whilst Grandi, Balbo and Ciano all tried to gain the support of the army and thus obtain power. He attempted by messages through his son to retain their loyalty, but what army especially an army which like the Italian had been victorious would accept a broken man as its leader. They wanted someone who could lead them to victory again and how could one do this who was not able by his oratory to excite passions to the boiling point and encourage them for the fray with words which seemed to make victory certain? For the Italians only work when they are forced and stirred up to do so by the dominating energy and physical force of a stronger man. Luckily for Mussolini and the nation none of the three leading men had the power to obtain the hold over the militia such as their former commander had exercised. Some supported one, some another with the result that the army was split up and rendered useless for the acquisition of power or for fighting against any foreign trouble. The Emperor of Abyssinia seized his chance, caused his countrymen to revolt and break the Italian yoke. In England Sir Anthony Eden was restored to power. In Italy itself chaos reigned. In the Chamber of Deputies the respective supporters of Balbo, Grandi, Ciano and Mussolini who was represented by his son, strove by means of newspaper and terrorist propaganda to obtain supreme power. Finally a parliament run on lines similar to the British was agreed upon with the exception that the four leaders had greater power than the ministers of Great Britain. This

system never worked well however because the leaders could not agree among themselves and constant disputes ensued.

In world affairs Italy ceased to be an alarming factor and settled down as an ordinary peaceful nation whose government was rather uncertain. And although old grandfathers told their grandsons about the "grand old days of Mussolini," no one ever again appeared to startle the world with oratory which gained for him the hold over his countrymen which Mussolini had possessed.

M. Holman.

WILLIAM, THE CONQUEROR.

The sun shone bright, the wind blew strong,
The waves danced merrily,
When William with his gallant crew
Sailed forth from Normandy.

He landed with his great array,
With all his glorious host,
His men stood by him all the time,
While William, he did boast.

They fought, and beat the English men,
They were a deadly foe;
The Conqueror made himself the king
Wrought ruin, fear, and woe.

The Saxons loved him not, they say,
And oft tried to rebel,
But William quenched them all, and this
Is all that I can tell.

M. Wormald.

SEEN IN THE LITERATURE

Melott, A.L., et al (2017-04-07) **A supernova at 50 pc: Effects on the Earth’s atmosphere and biota.** Preprint at arXiv:1702.04365 [astro-ph.EP], www.arXiv.org

[pc = parsec, about 3.26 light years]

Authors’ abstract: “Recent ⁶⁰Fe results have suggested that the estimated distances of supernovae in the last few million years should be reduced from ~100 pc to ~50 pc. Two events or series of events are suggested, one about 2.7 million years to 1.7 million years ago, and another may at 6.5 to 8.7 million years ago. We ask what effects such supernovae are expected to have on the terrestrial atmosphere and biota.”

“Assuming that the Local Bubble was formed before the event being considered, and that the supernova and the Earth were both inside a weak, disordered magnetic field at that time, TeV-PeV cosmic rays at Earth will increase by a factor of a few hundred. Tropospheric ionization will increase proportionately, and the overall muon radiation load on terrestrial organisms will increase by a factor of ~150. All return to pre-burst levels within 10 kyr.”

“In the case of an ordered magnetic field, effects depend strongly on the field orientation. The upper bound in this case is with a largely coherent field aligned along the line of sight to the supernova, in which case TeV-PeV cosmic ray flux increases are ~104; in the case of a transverse field they are below current levels. We suggest a substantial increase in the extended effects of supernovae on Earth and in the “lethal distance” estimate; more work is needed.”

“A modest increase in the mutation rate is possible, and possible measurable ill effects, particularly in large animals, as the muons are much more penetrating than other radiation backgrounds to which they are normally exposed. This could have caused an observed disparity between fossil and molecular dates, as well as facilitated a more rapid evolutionary response to the habitat changes which are credited with pushing the major faunal turnover at the beginning of the Pleistocene.”

Waite, J.H., et al (2017) **Cassini finds molecular hydrogen in the Enceladus plume: Evidence for hydrothermal processes.** SCIENCE 356:155-159

Authors’ abstract: “Saturn’s moon Enceladus has an ice-covered ocean; a plume of material erupts from cracks in the ice. The plume contains chemical signatures of water-rock interaction between the ocean and a rocky core. We used the Ion Neutral Mass Spectrometer onboard the Cassini spacecraft to detect molecular hydrogen in the plume. By using the instrument’s open-source mode, background processes of hydrogen production in the instrument were minimized and quantified, enabling the identification of a statistically significant signal of hydrogen native to Enceladus.”

“We find that the most plausible source of this hydrogen is ongoing hydrothermal reactions of rock containing reduced minerals and organic materials. The relatively high hydrogen abundance in the plume signals thermodynamic disequilibrium that favors the formation of methane from CO in Enceladus’ ocean.”

Speirs: Where there is strong heat and hydrogen, there is the possibility of anaerobic microscopic life.

David H. Krinsley, D.H., et al (2017) **Mn-Fe-enhancing budding bacteria in century-old rock varnish, Erie Barge Canal, New York.** JOURNAL OF GEOLOGY 125:317-336

Authors’ abstract: “Fossil remnants of bacteria involved in the enhancement of manganese and iron rarely occur within the microstratigraphy of rock varnishes collected from warm desert environments, because varnish formation processes ultimately destroy these microfossils through remobilization of Mn-Fe and reprecipitation in a clay-mineral matrix. In contrast, Mn-Fe encrustations on budding bacteria commonly occur within varnishes that formed within just a century along the Erie Barge Canal, New York.”

“Nanoscale imagery and elemental analyses reveal that these budding bacterial forms greatly enhance Mn, Fe, or both in encrustations surrounding hyphae and cells. The Mn and Fe precipitates have a granular texture on the scale of <1 nm to ~10 nm. The precipitates also have a stringy texture, where strings are typically only a few nanometers wide.”

“These *in situ* observations are consistent with expectations from studies of budding-bacteria cultures and with the polygenetic model of varnish formation. Given that the Erie Canal site presents the fastest known rate of varnishing, with typical thicknesses around 15 μm formed in a century, only one or two budding bacteria encrusting Mn-Fe oxides each year would be sufficient to generate the observed Erie Canal varnish. This contrasts with one bacterium growing every ~ 400 y being needed to generate observed rates of varnishing in typical warm desert settings.”

Gupta, S., et al (2017) **Two-stage opening of the Dover Strait and the origin of island Britain.** NATURE COMMUNICATIONS 8:15101
doi:10.1038/ncomms15101

Authors’ abstract: “Late Quaternary separation of Britain from mainland Europe is considered to be a consequence of spillover of a large proglacial lake in the Southern North Sea basin. Lake spillover is inferred to have caused breaching of a rock ridge at the Dover Strait, although this hypothesis remains untested. Here we show that opening of the Strait involved at least two major episodes of erosion.”

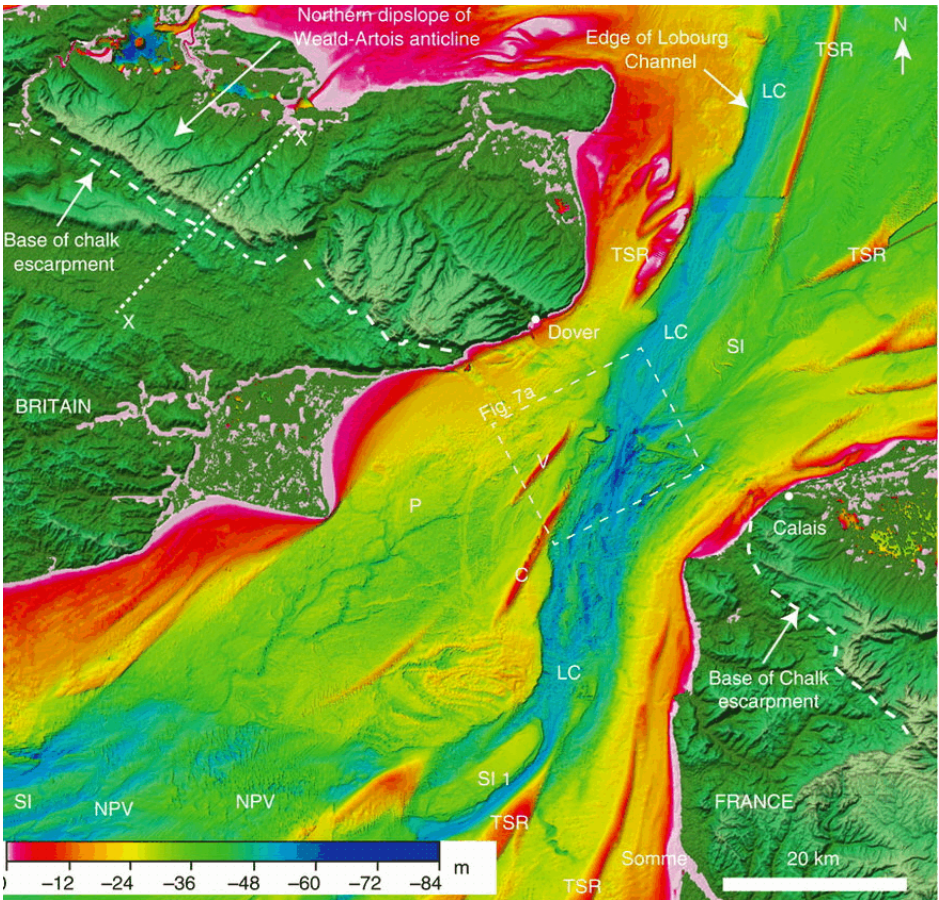
“Sub-bottom records reveal a remarkable set of sediment infilled depressions that are deeply incised into bedrock that we interpret as giant plunge pools. These support a model of initial erosion of the Dover Strait by lake overspill, plunge pool erosion by waterfalls and subsequent dam breaching. Cross-cutting of these landforms by a prominent bedrock-eroded valley that is characterized by features associated with catastrophic flooding indicates final breaching of the Strait by high-magnitude flows. These events set-up conditions for island Britain during sea-level highstands and caused large-scale re-routing of NW European drainage.”

[images from this paper]

Speirs: On the map at right, notice how the chalk escarpment on the British side matches up with the French side at Calais. The rectangle in the middle of the Channel highlights plunge pools of the giant waterfalls, which made Niagara Falls look like a trickle.



An artist's depiction of the ancient waterfalls at Dover Strait. Imperial College London/Chase Stone



Shugar, D.H., et al (2017) **River piracy and drainage basin reorganization led by climate-driven glacier retreat.** NATURE GEOSCIENCE
doi:10.1038/ngeo2932

Authors’ abstract: “River piracy, the diversion of the headwaters of one stream into another one, can dramatically change the routing of water and sediment, with a profound effect on landscape evolution. Stream piracy has been investigated in glacial environments, but so far it has mainly been studied over Quaternary or longer timescales.”

“Here we document how retreat of Kaskawulsh Glacier, one of Canada’s largest glaciers, abruptly and radically altered the regional drainage pattern in spring 2016. We use a combination of hydrological measurements and drone-generated digital elevation models to show that in late May 2016, meltwater from the glacier was re-routed from discharge in a northward direction into the Bering Sea, to southward into the Pacific Ocean. Based on satellite image analysis and a signal-to-noise ratio as a metric of glacier retreat, we conclude that this instance of river piracy was due to post-industrial climate change.”



“We suggest that the planforms of Slims and Kaskawulsh rivers will adjust in response to altered flows, and the future Kaskawulsh watershed will extend into the now-abandoned headwaters of Slims River and eventually capture the Kluane Lake drainage.”

Speirs: The glacial meltwaters made a right-angle turn in 2016 and now empty into the Kaskawulsh River, which flows south into the Alsek River and thence to the Pacific. The Slims River is now almost dry because its headwaters are gone. Erosion will cause the Kaskawulsh to eat back into the Slims and reverse its course. Kluane Lake will then drain south to the Pacific Ocean instead of west to the Bering Strait.



Han, X., et al (2017) **Emergence of communities and diversity in social networks.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 114:2887-2891

Authors’ abstract: “*Communities are common in complex networks and play a significant role in the functioning of social, biological, economic, and technological systems. Despite widespread interest in detecting community structures in complex networks and exploring the effect of communities on collective dynamics, a deep understanding of the emergence and prevalence of communities in social networks is still lacking. Addressing this fundamental problem is of paramount importance in understanding, predicting, and controlling a variety of collective behaviors in society.*”

“*An elusive question is how communities with common internal properties arise in social networks with great individual diversity. Here, we answer this question using the ultimatum game, which has been a paradigm for characterizing altruism and fairness. We experimentally show that stable local communities with different internal agreements emerge spontaneously and induce social diversity into networks, which is in sharp contrast to populations with random interactions. Diverse communities and social norms come from the interaction between responders with inherent heterogeneous demands and rational proposers via local connections, where the former eventually become the community leaders. This result indicates that networks are significant in the emergence and stabilization of communities and social diversity.*”

Speirs: I read through this several times and came to the conclusion that the authors overlooked a few points. They are writing about communities within a network and how those communities make that network diverse overall. As a glance at the Internet will show, that is indeed the case.

The problem is that the people within those communities are not diverse, and will often consider other communities as the enemy. It is like the village economies of the Dark Ages, when few ventured over the hill to the next village.

In the greater world, just about every kind of bigotry and self-righteousness can be found but physical proximity forces people to mingle whether they like it or not. On the Internet, one can remain sheltered within a group, hence the feuds between the Social Justice Warriors and the Sad Puppies in science fiction fandom, to take but one example among thousands.

With billions of Internet users, it is easy to stay within one’s comfort zone. In the real world, a white boy living in his Mom’s basement suite will have to learn to get along with his Pakistani boss who owns the convenience store where he works. The boy finds it easy to troll anonymously on the Internet and start fights, but in the real world he’d better behave himself when the store owner is around. That is why real-world interactions are quickly tempered but Internet interactions lead to all-out flame wars.

Schmidt, A.L., et al (2017) **Anatomy of news consumption on Facebook.** PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES USA 114:3035-3039

Authors’ abstract: “*Social media heavily changed the way we get informed and shape our opinions. Users’ polarization seems to dominate news consumption on Facebook. Through a massive analysis on 920 news outlets and 376 million users, we explore the anatomy of news consumption on Facebook on a global scale.*”

“*The advent of social media and microblogging platforms has radically changed the way we consume information and form opinions. In this paper, we explore the anatomy of the information space on Facebook by characterizing on a global scale the news consumption patterns of 376 million users over a time span of 6 years (January 2010 to December 2015). We find that users tend to focus on a limited set of pages, producing a sharp community structure among news outlets. We also find that the preferences of users and news providers differ. By tracking how Facebook pages “like” each other and examining their geolocation, we find that news providers are more geographically confined than users.*”

SIGNS, SIGNS, EVERYWHERE A SIGN
photo by Dale Speirs

I went out to Lake Louise, Banff National Park, on May 4. The furthest tourists at the end of the lake are in the avalanche zone. Notice the spill of snow on the ice from the slide at left. Where's Darwin when you really need him?

