

“A Commodity So Closely Aligned to Armageddon”¹: The Sudbury Region in Wartime and Aftermath

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Abstract: War wrought great change in the Provincial Norths, not least the Sudbury area in Northeastern Ontario. Despite nationalist southern voices calling for “Canadian nickel,” the war confirmed the duopoly of INCO and Mond—nickel reinforced war materiel ranging from bullet casings to battleships. Corporate strategies differed: at first hesitant, the United States based INCO maximized production and profit while British Mond Nickel began with patriotic bluster but ultimately maintained a steadier course. Variant tactics notwithstanding, nickel production increasingly dominated the local economy—even a provincial government keen to “settle” New Ontario favoured the firms over farmers angry about sulphur-damaged crops. Farmers less directly “downwind” took advantage of improved infrastructures, new farming methods, and strong markets to bring local agriculture to commercial levels. Even forestry was vibrant. War, it seemed, was good for this part of the provincial north, or at least its purse. Mixed economies were paralleled by social maturation, or, was it the decline of “northern-ness”? “Southern” voluntary associations made major strides, and the war brought a surge of patriotic societies. Patriotism cut various ways—local Franco-Ontariens, angered by Regulation 17, reacted strongly against conscription. Immigrants volunteered to fight (whether for Canada or homeland) even as their peers collectively challenged the social and economic order. Wartime passions thus reshaped the human landscape even as resource exploitation wrought physical and economic change. Southern pressures, economic and environmental consequences, a struggle for permanence—the Nickel Belt provides a valuable look into the Provincial Norths during the “war to end all wars.” This article is part of a special collection of papers originally presented at a conference on “The North and the First World War,” held May 2016 in Whitehorse, Yukon.

The headlong plunge into worldwide conflict that was the First World War wrought great change on many aspects of life in the Sudbury region. Social activities were altered by wartime passions: Conscription, Regulation 17, the “threat” posed by the “enemy alien,” the “Bolshevik,” and the “radical” worker, all influenced local lives. The hostilities also sparked new enthusiasm for religion, social reform, and various patriotic societies, all of which altered the human landscape. These developments, like the more commonplace extensions of administration, transportation, and communications media, were most strongly felt in Sudbury, thus accentuating the town’s growing regional primacy.

Even an increasingly multifaceted Sudbury could not escape the varied consequences of war and its aftermath. Wartime needs quickened resource exploitation, in turn providing strong markets for business, labour, and an increasingly commercial agriculture. Still, nickel production—crucial to the war effort—was of first rank, as evidenced by federal and provincial governments’ protection of the nickel firms from wartime nationalism, new competitors, and even farmers weary of sulphur-damaged crops. While the end of war brought joyous celebrations, it crushed the nickel markets; locals longed for the prosperity of wartime.

Military & Patriotic Activity

While the Nickel Belt began slowly adjusting to war, patriotism prompted many men into faster action. They volunteered for service in the 97th Regiment (Algonquin Rifles). The Algonquins had deep roots: initially the Sault Ste. Marie Rifle Company (1865), from 1908 the Algonquins were based in Sudbury. On 20 August 1914, 255 men under Militia Commander Major W.J. Cressey set off for Valcartier, Quebec, where they joined with the 48th Highlanders of Toronto as the 15th Overseas Battalion. The next year saw the 159th Battalion mobilized in April; over 1,000 men embarked for England on 1 November 1916. By then the 227th Battalion—the “Men of the North”—mobilized, with recruits from the Sudbury, Algoma, and Manitoulin Districts. Twenty-eight officers and 783 other ranks departed for England on 4 April 1917. Both the 159th and 227th were absorbed into existing battalions, and saw service in Flanders and France by August 1917.²

At home, the population of the Nickel Belt also “did their bit.” The Sudbury Patriotic Society was organized on 8 September 1914. During the war, the Sudbury group raised over \$175,000 and after deductions for

local relief and advertising, about \$125,000 was forwarded to Ottawa. In Copper Cliff, the executive of the Canadian Copper Company (an INCO subsidiary) took action. Company president A.D. Miles headed the Copper Cliff Patriotic Society; the remaining Society executives were senior figures in the firm. The Copper Cliff organization had jurisdiction over points west to the Spanish River. Employees of the firm, not surprisingly, were the main contributors, offering about \$125,000 between the October 1914 organization of the Society and the drive of 1919.³

Less corporate-directed efforts were equally well subscribed. Patriotic performances gained free advertising in the *Sudbury Star*, which regularly urged patriotic acts. Take its comments on the “Grand Patriotic Concert” at the Rex Theatre in Copper Cliff on 21 September 1914. The *Star* enthused:

... the Rex should be packed to the roof. It is up to all to remember the widows and also the children most certain to be left fatherless as a result of the war ... the Rex Theatre should be filled as never before in this chance to substantiate “that patriotic feeling.” A first class concert will be given. The Dramatic Club have selected a powerful dramatic sketch, with a strong patriotic thread running through it. One feature of the affair that should be kept in mind is that every cent of the proceeds will go to the fund.⁴

Throughout the war, patriotic events were recurring fare at the Rex in Copper Cliff, the Gayety in Creighton, and the Grand Theatre in Sudbury.

One very well-supported local effort collected funds for machine guns (at \$750 per gun); the first week’s effort saw \$1,000 collected, and the goal of five guns was easily achieved.⁵ Victory Bonds offered yet another means of showing one’s commitment to the war effort. All the local mining firms, and the local elites, heavily promoted the Bonds—the former were crucial, arranging payroll-based sales. Year after year, the Nickel Belt quickly met and then exceeded their quotas for each bond drive. By 1917, fully 20% of the area population bought bonds, with the district total topping \$1.5 million. Sudbury did well, but the smaller mining communities shone, bringing in over \$585,000 in 1917 alone. Pleas were issued in Finnish, “Ruthenian,” and Italian as sales quotas rose year after year. Small mine centres like Garson were active: miners there donated \$8,588.93 to the Garson Patriotic Fund in 1916 alone through offering a day’s pay and other means. Copper Cliff and Sudbury Town Councils also used public funds—Sudbury even floated a loan for the cause. By war’s end, the two towns provided over \$1 million for the fund. Further efforts saw the

Great War Veteran's Association Ladies Auxiliary, the Navy League, the War Relief Club, and local Red Cross organizers gather food, gifts, and sundries like 1,250 pajamas and 2,000 pairs of socks.⁶

War Pressures in the Mineral Industry: 1914–22

Beyond attracting local support, the “War to end all wars” provided a tremendous boost to the American-based International Nickel Company and its affiliates (INCO) and the British-based Mond Nickel Company (Mond), because nickel was a key reinforcing agent in war materials ranging from bullet casings to battleships. The consequent demand for nickel reinforced the local nickel “duopoly,” especially because the war-encouraged British America Nickel Corporation (BANCo) failed to overcome mediocre deposits and insufficient production plants. But INCO and Mond chose significantly different strategies.⁷ INCO strove to maximize its production and profit; Mond, aware of the implications of peace, maintained a steadier course.

Nickel and the War

To the dismay of Canadian patriots, the pre-war months saw slowdowns at both INCO and Mond as managements moved cautiously, fearing lost markets due to a combination of an international economic recession and the looming uncertainties of war. The firms laid off workers and cut production by June 1914, leaving hundreds of men angry and without sustenance. An unemployed men's hovel emerged on the edge of Sudbury, drawing attention to their plight through protest marches. Matters worsened with INCO curtailing work even more severely on 8 August. All of its mines except the Creighton were closed, as were all but two furnaces; 75% of the workforce lost their jobs.⁸ Critics condemned the firms' outlook, a view later summed up in a study of metal marketing:

Until the World War, the principle producer was the International Nickel Co ... which had a monopoly of the American market and also competed in foreign markets. The only other producer was the Mond Nickel Co., which shipped all its nickel to Wales for refining, and sold exclusively in the foreign market. The International company ... having a monopoly of the American market, practically fixed the price of its product, keeping it high enough to assure what it considered a reasonable profit, and low enough to encourage consumption. There was no open market, so there is no record of prices.⁹

Such attacks reflected animosities reaching back to the ouster of INCO founder, Samuel J. Ritchie, in 1891, and gained momentum once it was established that nickel was an important war material. Take an editorial in *The Canadian Engineer* in October 1904: “to some Canadian patriots ... it is absurd that the nickel used in the construction of the iron walls that defend Great Britain, should be purchased second-hand from an American trust.”¹⁰

Nevertheless, INCO was confident—after all, the United States was not at war. Local voices and many industry observers were certainly compliant: the *Sudbury Star* explained away the slowdown:

... with a commodity so closely aligned to Armageddon the nickel industry is one of the first to feel the direct result of the great conflict in Europe. The demand for nickel in the construction of the engines of war is practically suspended, while the demand in the remaining avenues of commerce in which the commodity is used is more or less affected by the general trade conditions. A temporary retrenchment is to be expected.¹¹

Soon these market worries evaporated: early in October, two furnaces were re-fired and employment levels rose to 60% of the pre-war total. Then the growing demand for nickel led to reopening of the Crean Hill mine; soon 500 men were employed there, raising some 175,000 tons of ore per annum. Limited operations at the No. 2, Vermillion, and Froid mines provided yet more ore. Creighton operations nevertheless remained crucial: more than one million tons of ore were raised there in 1916, and the mine became even more efficient in 1917 when the No. 3 shaft was finished. The Creighton mine produced about 80% of an ore output that doubled between 1914 and 1916 and then held steady at the 1.2 million tons per year level through 1918.¹²

Record production required improvements to INCO's processing plant. Its Huronian Power subsidiary installed a second plant at High Falls, tripling INCO's power capacity when it came on stream in 1917.¹³ Greater electrical capacity was needed for both increased mining and to service a \$500,000 expansion of the Copper Cliff works. Construction began in April 1915; in August a larger reverberatory furnace was blown in to supplement the six furnaces already running full time. By 1917 an unprecedented total of eight furnaces were reducing ore; to quiet complaints about sulphur fumes, the No. 3 roast yard was replaced in 1916 by the huge, highly mechanized O'Donnell yards located several

miles west of Creighton mine.¹⁴ Little wonder: conditions had, even by local standards, been awful:

No man on the road between Sudbury and Sudbury Junction, ... on Monday, August 23, could not help smelling the odor of dying vegetation, and on the following day, the fields were a rusty dying colour instead of a living green. Is that not sufficient proof of the damage being done by sulphur smoke ... It is to be hoped the Canadian Copper will sit up and take notice, and the farmers sit down and make a fair estimate of the damage, so as not to force the company beyond a fair and agreeable settlement.¹⁵

Vast amounts of sulphur also rose from the Mond Nickel works at Coniston, that firm having overcome early caution to reap substantial wartime income. Mond, having stretched its financing to expand operations, feared wartime shipping problems, so to save in the short term, the British firm discharged most of its men in mid-August 1914. "Erratic and irregular" shipments did prove troublesome early in the war, but a combination of economic need and British patriotism very soon led to the resumption of full-scale operations.¹⁶ Although Mond (Victoria) mine production declined as easily accessible ore ran out, the Garson, Worthington, and Levack mines ran steadily; further ore was obtained both from smaller, company-owned mines, and from contractors at the Mount Nickel and Howland mines. Costs were held in check by limiting developmental mining and introducing more careful ore sorting prior to shipment. Avoiding unneeded expansion reflected Mond's astute anticipation of much smaller postwar markets. Ore production therefore showed little of INCO's wartime surge; it was kept steady at about 350,000 tons per annum.¹⁷

Plant improvements were equally modest, highlighted by the firing of a third Coniston furnace in 1915 and expansion of its refinery in Clydach, Wales. A fourth furnace, ready in 1918, was kept in reserve. Rather than expand its plant, Mond improved its reduction process, thus cutting costs and alleviating the waste and public dismay associated with heap roasting. Tests began in 1915 on a Fink smelting furnace designed to reduce "green" ore to 80% matte; after overcoming many problems, Mond began winters-only roasting in 1916 and phased out its roast yard by 1918.¹⁸ But even conservative expansion strained Mond's power reserves, so its Lorne Power subsidiary installed a new twin-turbine plant at Nairn

Falls on the Spanish River. By 1917 the Nairn Falls and Wabageshik plants, supplemented by purchases from Wahnapiatae Power, proved adequate.¹⁹

Mond's careful wartime strategy brought it profits of at least \$1.5 million, and dividends were equally substantial. INCO's more aggressive approach earned far more—\$45.8 million in profits, with dividend payments totalling about \$38 million. In contrast with other wartime industries, these profits reflected real production gains, not price increases: buyers of nickel paid little more for the metal in 1918 than they had in 1913. If the steady price created unrest among INCO's American stockholders, their concerns were assuaged by the combination of positive publicity and good profits earned through the five-fold increase in nickel-copper production, and sharp increases in the price of the latter mineral.²⁰

These gains—Sudbury produced fully 90% of the world's nickel output for 1918—attracted new entrepreneurs during the war; they found the Nickel Belt a very challenging field.²¹ Only British America Nickel represented a significant threat to the nickel duopoly, for BANCO's executive seized on the war to solicit government aid in establishing an "Empire" supply of refined nickel. Early in 1915 E.R. Wood began campaigning for a \$3 million federal bond guarantee, but a hasty counterattack by INCO (compounded by the loss of backer Frederick Stark Pearson on the RMS *Lusitania*) prevented any progress. Next, BANCO found an ally in the Munitions Resources Commission, the British agency focused on Canadian production of war materials. In April 1916 the commission urged Canadian aid for BANCO if the firm established its refinery in Canada. But Prime Minister Robert Borden had his doubts about BANCO, a hesitancy reinforced by Federal Finance Minister Thomas White's opposition to federal aid. No assistance was forthcoming from Ottawa.²²

Then the British wartime government acquired controlling interest in BANCO; a \$6 million securities guarantee and ten-year contract for 6,000 tons of nickel a year saw the reorganized BANCO resume work. Murray mine reopened in August 1916; plans for a smelter *and* refinery site called Nickelton were announced. By September 1917 the fast-rising site had rail links, but BANCO found that Wahnapiatae Power was unable or unwilling to supply the 5,000 horsepower needed for electrolytic refining. Stymied locally, BANCO opted for a refinery at Lac Deschênes, Quebec, where power supplies were plentiful. Local works relied on costly steam-generated power. Shortages of power and labour notwithstanding, 21,000 tons of ore were stockpiled and the smelter at Nickelton was nearing completion at war's end.²³

Some analysts looked askance at Ottawa's refusal to aid BANCo, for the emotions of war had renewed and greatly strengthened the cries for domestic control of nickel—the so-called “Nickel Question” loomed large.²⁴ As early as December 1914, J.F. Black, President of the Sudbury Board of Trade, and already a foe of the “INCO smoke,” wrote the British Board of Trade:

As a British subject I consider it only my duty to draw your attention to the fact that the Canadian Copper Co ... reportedly has recently made a contract with one of the South American republics to deliver them a large quantity of nickel and copper. There is a persistent rumour in this district that these products will be shipped to Germany.

INCO and its allies argued vociferously that such claims were nonsense. At year's end, A.D. Miles, INCO President, insisted that “No such contract has been made by us, and no shipments of nickel or copper made.”²⁵ A compliant Sudbury Board of Trade, too, moved to disavow Black's comments. Industry voices were generally supportive: at year's end, the *Canadian Engineer* reported that INCO accepted a ban on nickel shipments to “all foreign parts of Europe and on the Mediterranean and on the Black Sea, save Great Britain, France, Russia (except the Baltic ports), Spain, and Portugal.” There was, the *Engineer* insisted, a “mutual understanding” that NO nickel from INCO would reach Germany or its allies. And the *Financial Post* on 1 January 1915 reported INCO committed to British governmental approval of all nickel shipments.²⁶

Despite the assurances, a war-inflamed public was unconvinced, not least because of barbs from Provincial Liberals sitting in Opposition in Toronto; their political attacks linked Frank Cochrane—former minister of lands, forests, and mines, now federal cabinet member and key Conservative Party organizer—with the nickel industry. Intimating that Krupp controlled INCO, they advocated greater control, or even public ownership of nickel production. Rumours of “Sending Canadian nickel to kill Canadian soldiers,” raised the public outcry. The cautious Conservative provincial government insisted it *was* policing INCO; immediate action was avoided by creating a Royal Ontario Nickel Commission (RONC) in February 1915. Federally, the Munitions Resources Commission moved more assertively in November 1915, calling for a Canadian nickel refinery.²⁷ The province finally urged action. Minister of Mines (later Premier) of Ontario, Howard Ferguson, wrote Prime Minister Borden on 19 January 1916:

This question ... has been a live one with the Government for a number of years It was not only important from a commercial standpoint, but essential from an Imperial standpoint, that steps should be taken to bring about refining of nickel ore in Canada and preferably in this province.²⁸

Ferguson was a follower, not a leader: on 19 December 1915 Robert Borden urged INCO President Ambrose Monell to build a Canadian refinery. Monell, on 7 January, grumbled it “cost more to refine nickel in Canada” but promised Canadian refining if certain terms were met.²⁹

The promise, made public in January 1916, did not placate INCO’s critics; the Munitions Resources Commission waited only one month before urging “instant establishment” of a Canadian nickel refinery. Matters gained urgency when, on 12 August, the *Providence Journal* reported that nickel, presumably INCO’s, was in July shipped to Germany on the submarine *Deutschland*. The revelation inspired heated calls for action against INCO: the *Financial Post* sought “drastic” corrective action and even the ever-cautious W.L.M. King argued that the nickel industry “should be made a state monopoly.” Even long-time INCO allies spoke out: the *Sudbury Star* called for the establishment of a Canadian refinery, preferably near Sudbury.³⁰

INCO worked to shift public attitudes. Alexander Gray, writing for the firm, attacked “much by way of running commentary upon the attitude of the International Nickel Company.” The Corporation’s prosperity, he claimed, was solely “attributable to the magnitude of Allied requirements ... Concurrently with the decision to abide by any and all regulations imposed by the Dominion and Imperial Governments, it was decided that advantage should not be taken of the War to exact other than the pre-War price of the metal.”³¹ To placate nationalist sentiments further, INCO created a Canadian subsidiary – The International Nickel Company of Canada – on 25 July 1916. Fourteen days later, it made public plans for a nickel refinery at Port Colborne; Sudbury, it argued, lacked sufficient electrical supplies.³²

INCO faced more actions: the Royal Ontario Nickel Commission, while dismissing the notion of a nickel duopoly despite its own voluminous evidence to the contrary, did urge significantly increased taxation. New measures were introduced in the Mining Tax Act of 1917.³³ INCO, already facing much higher wartime taxes in the United States, argued that the Act was outside provincial jurisdiction, and an “indirect and unfair means” to

penalize the firm. But Ottawa refused an appeal for disallowance, so the tax, which historian O.W. Main viewed as “undoubtedly discriminatory against the nickel industry, and especially against International,” remained in place.³⁴ INCO’s inability to kill the tax, notes Main, led to a move from “reliance on a legal position to an active development of a public relations policy.” War marked the start of large-scale INCO advertising and employee publications; in short, a public relations strategy.³⁵

Postwar Mining Woes

The war’s end brought new challenges: peace, in efforts like the Washington Naval Conference, threatened armament markets for nickel. The general postwar recession and the re-use of scrap nickel further weakened the market. What to do? Industry voices like the *Engineering and Mining Journal* urged slow but steady production, turning out small tonnages yet keeping organizations intact. But INCO opted for drastic cutbacks. In spring 1919 it closed the Crean Hill mine, cut mining at Creighton by two-thirds, and slowed reduction work by half, lowering its overall workforce by two-thirds. More cuts followed in November 1920 and July 1921; then, on 24 August 1921, INCO effectively closed its Sudbury area works. A skeleton maintenance crew of 200 men was pared further on 26 November as INCO sought to develop peacetime nickel markets.³⁶ But for the time being, INCO shareholders and the much more vulnerable employees worried: INCO fortunes slid to a first-ever loss in 1922.³⁷

That loss surely convinced Mond executives of the rightness of their more-sophisticated managerial approach. The British firm avoided over-expansion during the war while simultaneously launching a search for new nickel markets. Commercial nickel sales kept Mond’s plants open despite postwar disarmament, although production was greatly reduced. The firm’s workforce, down to 750 by spring 1919, nevertheless outnumbered the entire local INCO payroll by 1921; they raised 150% more ore than INCO’s miners during 1921-22. Continuing ore production kept a single furnace and convertor in service at Coniston.³⁸

At the fledgling BANCo, optimism still held: three shifts worked Murray mine, producing over 70,000 tons of ore by the end of 1919. The smelter at Nickelton was blown in on 17 January 1920; it skipped the roasting process, reducing ore directly into high-grade matte. The first matte was shipped to the Lac Deschênes refinery on 30 June 1920. But then the British government cancelled its nickel contract to relieve domestic political pressures. BANCo’s rigidly mortgaged finances could not stand

the blow: while the firm struggled on for several years, its fate was sealed. Disposal of BANCo's assets ended all hope. Financial analysts anticipated a "keen contest" for BANCo's assets; instead, a "dirt cheap" bid won the assets with Anglo-Canadian Mining, a Toronto corporation controlled jointly by INCO and Mond. The nickel duopoly confirmed their control, to no avail for a struggling local economy.³⁹

Workers & War

The investors' losses could not compare with the trials of the mineral labour force, which reaped limited gains from the wartime boom but paid a heavy price for postwar slowdowns. The booming mining and smelting operations demanded more labour that saw INCO forced to increase not just hiring but pay.

Industry observers regularly commented on "sky high" wages (25 to 60 cents an hour in 1918), plus a heightened company paternalism. But the Armistice brought a new reality: about 4,000 men lost their jobs by May 1919, and employment opportunities declined until 1922. Miners went first, then reduction personnel, as ore stockpiles were replaced by matte reserves. Wages reached their nadir in 1921.⁴⁰

Workers who suffered successive gains and losses remained an ethnically heterogeneous group: miners were "principally foreign, probably not more than 25% being Canadian or American. The more skilled workmen, such as foremen, mechanics, and carpenters, are Canadian or American. Underground the drill runners and helpers are principally Finns and Austrians; the trammers are generally Poles, Italians, Austrians, and Russians."⁴¹ The smelters, meanwhile, featured mainly Italian, French Canadian, and East European men who toiled in more sophisticated, efficient plants that nonetheless remained hot, gaseous, and dangerous workplaces.⁴² The mines featured "modern" underhand and shrinkage stoping, new equipment, and better explosives; the more efficient, if not always safer mines enabled fewer men to raise more ore.⁴³

Labour gains, even in war, were limited by the dominance of INCO and Mond. Both firms had resolutely resisted labour organizations since the 1890s; small-scale strikes were ruthlessly crushed. Undeterred, in 1905 the Western Federation of Miners (WFM) entered the field.⁴⁴ Little was gained: company spokesmen credited corporate paternalism, while Ralph Stokes argued that it was a

striking illustration of the labour policy followed in Canada. The great majority of Sudbury's labouring community are continental Europeans—thrifty, contented and hardworking ... These physically and mentally stolid foreigners appear to provide satisfaction and receive it. In their dread of strikes, likely to interrupt the steady rate of profit accumulation, they give the agitator meagre encouragement.⁴⁵

But Stokes's haughty, racist condemnation of these workers overlooked long-standing unrest among area miners and smeltermen. Minor victories emerged: in 1909 Mond's Garson miners won wage gains, as did miners at INCO's Crean Hill mine in 1912.⁴⁶ Corporate wrath grew: by 1912 Mond used strikebreakers and firings.⁴⁷ In response, a WFM drive, closely linked with Finnish halls and Finnish-language *Työkansa* (Working Folk), saw miners launch Garson Local 182 on 9 March 1913; Sudbury Local 183 followed on 18 April 1913. Area WFM membership jumped from 200 to 700 members.⁴⁸

Formal organization brought even more determined corporate response: Mond Nickel hired four Pinkerton agents who stole the WFM books. Thus informed, the British firm dismissed the unionists and, with the co-operation of INCO and Moose Mountain Mining, an iron mining firm, instigated a region-wide blacklist against WFM members.⁴⁹ As local miners fought on, corporate resolve grew firmer: Canadian Copper Company President A.P. Turner assured W.A. Bostwick, assistant to the president of INCO, "if they ever go as far as they have with Mond we would break it up [even] if we had to close down the entire property."⁵⁰ War, then, offered no room for unionization: the Garson WFM local vanished before 1914 was out; the Sudbury local faded from view by 1916, much to the joy of W.E. Mason of the *Sudbury Star*, long a foe of the WFM's "well known lawlessness."⁵¹

Outside observers had rather more sympathy for local miners, especially with anti-INCO views provoked by the wartime "nickel question." Sam Carter, a member of the provincial parliament (MPP), condemned the "wretched" conditions in Copper Cliff, laying blame squarely on low wages paid by INCO. Even the pro-business *Northern Miner* claimed the nickel miners "must move circumspectly, if they would hold their jobs" within the "fortress of alien industrialism":

From time to time agitators ... have found their way into the minefields. But they do not last long there. If they do not work hard they are dismissed. If they hold meetings they are ignored. Mine managers simply refuse to recognize their existence ... All the mines being "open shops" the managers can pick their men.

The *Industrial Banner*, for its part, termed INCO a "persistent enemy of organized labor" that "on more than one occasion has employed gunmen to if possible prevent organization among its employees."⁵²

With wartime urgency brought to bear and a once-ample labour supply growing scarce, such criticism struck home: both INCO and Mond offered wage increases and shorter hours of labour. On 1 November 1915, the firm cut workdays from twelve hours to eight hours per day – wages rose too, but not always enough to compensate for lost hours. Higher wages came with higher productivity expectations: early in the war, 5,000 or more men were employed in the industry, but improved plant efficiency, increased use of stockpiled ores, and the closing of minor operations soon saw employment dip to below pre-war levels. Mond quickly followed suit, and smaller firms soon mimicked these actions. Miners were best off under the new schedules, working eight-hour days, six days a week, with the standard daily pay often supplemented by bonuses for speedy work.

Labour supply remained an issue as men departed for war service or better workplaces elsewhere. Worker shortages led to the hiring of "enemy aliens," mainly Ukrainians, in 1916, but such pressures eased as increased efficiencies, and perhaps expectations, took hold – productivity per worker rose sharply, allowing employee numbers at INCO to fall beginning in 1917. Nevertheless, convincing men to work harder at the various, generally unpleasant tasks in the mines and reduction works required another 10% pay increase in February 1917. Yet another 50 cents daily increase was instituted in April 1918. In all, hourly wages at INCO rose an average of almost 77% from 29.2 cents to 51.5 cents between the lows of prewar recession of 1913 to the highs of 1918. By then, INCO operations employed some 3,200 men; Mond another 1,800; much smaller numbers toiled for the fledgling BANCo and various gold, iron, and other mining operations in the region.

Corporate paternalism also stifled unrest: better health care and living conditions, new features like worker-management committees, plus pension plans and stock purchase plans, meant local conditions had "taken precedence over any mining camp on the continent," or so

argued the ever-supportive *Sudbury Star*. The conservative, Hamilton-based *Labor News*, seeking “a better feeling between capital and labor,” lauded the industrial relations efforts of INCO, Mond, and the new BANCo. Corporate paternalism, wartime prosperity, and pressure against unionists blunted unrest.⁵³

That said, roving WFM and IWW (International Workers of the World) adherents kept alive the goal of organization.⁵⁴ “Established” labour, in contrast, did little: in 1918, the International Union of Mine, Mill, and Smelter Workers, successor to the WFM, called in vain for aid from the Trades and Labour Congress of Canada in organizing Northern Ontario mine workers. Massive post-war layoffs—1,400 by INCO in a single “layoff”—made the task even more difficult. According to A.M. Walker’s testimony before the Royal Commission on Industrial Relations, workers presumed to be unionists were the first to be discharged: the firms, he opined, “never fire a man because he is a labor organizer, but after three years of service in the company they will discover you are—well, you ain’t no good.” Walker’s sarcasm drew appreciative laughter, but few persons had the nerve to testify. F.J. Eldridge, Secretary of the Sudbury Trade and Labor Council, claimed (to applause) that “dozens of our fellows are scared to come before you and give evidence because they are afraid they would be discriminated against afterwards.” One exception was D.J. Fortin, who blamed the nickel firms for local labour unrest. Within six weeks of organizing, he recalled, “we were all discharged, weeded out.”⁵⁵

Company spokesmen baldly asserted before the commission that their firms were *not* against worker organization; what they opposed was the “outside interference of certain socialist miners’ organizations.” They also denied knowledge of work stoppages: C.V. Corless of Mond insisted “we have had no strikes;” J.L. Agnew of INCO reported “no strikes whatever” in his then-seventeen years with the firm. E.J. Carlyle, the BANCo smelter superintendent, acknowledged one work stoppage by bricklayers, but argued it was “a piece of bad judgement, I would not call it a strike.”⁵⁶

Mine Mill organizers, unabashed by corporate pressure, opted for an aggressive strategy in 1919, affiliating with the OBU. In 1918, Mine Mill, successor to the WFM, sought in vain for Trades and Labour Congress aid; it opted for a much more aggressive strategy in 1919, affiliating with the OBU (One Big Union). But massive layoffs in the Nickel Belt blunted talk of unionization. In any event, the firms remained resolute: at INCO’s Copper Cliff facilities an Italian named Monaldi was arrested for sedition, distributing banned literature, *and* vagrancy. Though the charges were eventually dismissed, the point had been made. Despite the brief

appearance of Local 148 at the Mond works in Coniston, the OBU fast lost momentum.⁵⁷

Workplace tensions were a symptom of the push for great efficiency in the mines and reduction works transpiring in the mineral industry during the war era. The strong wartime demand for nickel had reinforced the supremacy of the Sudbury ore deposits, but the failure of wartime nationalism and BANCO's subsequent collapse assured that INCO and Mond brooked no opposition. That control manifested itself during the postwar slump: INCO's abrupt cuts crippled various centres, while Mond's controlled slowdown permitted some degree of economic stability in its company towns. Both scenarios provided clear evidence of the risks inherent in a single-resource, limited-market economy, so industry analysts and area residents alike eagerly awaited expansion of commercial nickel sales. New markets, it was hoped, would permit a return to prosperity, thus confirming the Sudbury Basin as the major world source of nickel.

Farms, Forests & War

Local farmers stood apart from those persons praising the wartime expansion of the nickel industry, for agriculture in Northern Ontario was difficult enough without the added burden of increased sulphur pollution. The provincial response to "smoke" damaged crops—protecting INCO and Mond—was in sharp contrast to long-established provincial policies aiding both new and established "New Ontario" farmers. But neither these mixed signals, nor the wartime fascination with the Clay Belt, prevented agricultural progress in the Nickel Range. New farms were opened on both free and sales lands, making subsistence-oriented, pioneer farms a continuing element in the agricultural landscape. Longer settled farmers, meanwhile, took advantage of improved access to the strong urban markets, and introduced superior methods. The upshot was increased commercial farming. Meanwhile, many farmers derived additional sustenance from the forests. Though scarred from three decades of cutting, local forests remained an important economic force: pulpwood cutting, surging markets for roast yard wood, smaller cuts of other wood stuffs, and even the more-distant pine operations, helped to finance the more substantive gains sponsored by farm settlement.

Agricultural Progress

Wartime placed long-standing provincial aid for northern colonization in conflict with maximizing nickel production. The contradictory policies

soon clashed: INCO and Mond, weary of “excessive” awards handed out since 1909 for sulphur damaged crops, and aware that wartime production would bring more, sought better terms. Ontario moved quickly: new adjudicators set lower damage awards and in 1915 the remaining Crown holdings in twenty townships were withdrawn from settlement. Still more corporate protection followed: the Industrial and Mining Lands Compensation Act of 1918 ensured that “smoke easements”—single payments that negated later corporate liability for sulphur damage—were made binding on land owners. Area farmers grudgingly accepted token amounts because the courts, too, favoured the nickel firms. Provincial Judge J. Middleton’s 1917 decision on smoke damage, for example, concluded that “the Court ought not to destroy the mining industry even if a few farms are damaged or destroyed.”⁵⁸

Ontario’s unwavering support of the nickel firms surely confounded area farmers who received equally spirited aid from the provincial and federal governments. Ontario’s northern development branch was especially active, committing funds to road improvement and field drainage, natural choices given that narrow, winding, dirt-surfaced roads and fields often had to be carved out of northern bogs. When the financial constraints of wartime slowed progress, the population grew restive: J.F. Whitson, commissioner of the branch, yearly noted a growing demand by the settlers and businessmen in Northern Ontario for more and better roads.⁵⁹ In response, the branch increased its spending, with a fourfold local increase bringing Sudbury area expenditures. The increases saw new roads reach beyond existing settlement; busier routes were upgraded to trunk road status. The branch also provided additional agricultural aid to farmers, including low interest loans, quality seed, pesticides, and emergency supplies in years of crop failure. These aids complemented the provincial “Ag Reps” in their continuing promotion of better livestock, seed, and farm techniques. Federal Agricultural Aid Act monies brought further elements of modern agriculture.⁶⁰

The increased assistance was appropriate, for local agriculture made great strides. New settlers continued to penetrate the alluvial valleys scattered east, west, and south of Sudbury. Sales lands in Lorne and Louise townships attracted many Finns, and more varied populations settled in other townships west of Sudbury. Settlement to the south was concentrated in Broder and Dill townships though some pioneers pushed on into Cleland and Burwash townships. Settlers also continued to open up the Canadian Shield east of Sudbury. All told, farming on the Shield showed much wartime expansion, but the scattered availability of land dictated

very uneven settlement densities. Some townships supported from ten to thirty farms and a few—Broder, Garson, Lorne, Louise, and Waters—sixty or more.⁶¹ Even the most successful Shield farming areas, moreover, featured fields separated by rocky hills and empty lots separating farms. The “patchy” settlement, physically distinctive in its own right, featured culturally inspired differences between locations. Finnish farms, with dove-tailed construction techniques, saunas, numerous outbuildings, and mixed farming methods, differed sharply from the farms of their francophone neighbours.⁶²

Ethnic enclaves and patchy settlement on the Shield terrain were in marked contrast to the longer-settled, comparatively level and rich valley farms that fast assumed the character of an agrarian community. Indeed, the provincial land office at Blezard Valley was closed in 1916 “by reason of practically all the land being granted.”⁶³ The province, however, underestimated the attraction of Hanmer, Lumsden, Capreol, and Morgan townships—all continued to attract settlers. Valley farms featured large, contiguous fields and buildings erected alongside straight, regularly intersecting roads; clusters of buildings coalesced into “crossroads” villages, inviting comparison with old Ontario. Efforts like the Chelmsford Agricultural Society, a United Farmers of Ontario store, and the Balfour and Rayside Farm Credit Association reinforced the sense of a farm community.⁶⁴

The gains in the Valley were just part of the continuing progress that gave agriculture a more prominent role. Rapid settlement continued: 365 persons obtained over 41,000 acres of land through grant or purchase. And many settlers succeeded despite the pollution-linked Crown Land withdrawals that limited the supply of suitable land. Patents were issued on 331 locations compared to 140 lots resumed; 61 of the latter were on marginal lands north of the Valley; those successful boosted total farm numbers to about 1,200, including over 200,000 acres of land.⁶⁵

These farms had a major impact on the Nickel Range. The francophone and immigrant enclaves gave these rural populations a strong identity and higher profile, and the farms were a real factor in the economy. Pioneer farms naturally continued to rely on subsistence techniques, concentrating on economic survival during the period of clearing, drainage, and other basic settlement work. But more and more farms achieved commercial status as their owners sold their produce to nearby resource camps or communities. Commercial farming reached new heights in the Valley and near Sudbury, not the least because of the opening of a farmers market in that town in 1914. High wartime prices—eggs sometimes sold for \$1.00

a dozen—encouraged more sophisticated operations. Dairies emerged: Joseph Boudreau supplied milk products to much of Coniston, the Anderson farm supplied Creighton mine, and the Sudbury Co-operative Cream Company was one of a dozen dairies serving Sudbury. Valley farmers mounted the largest concerns. The Chelmsford Cream Company produced 44,914 pounds of cheese in 1918; several other private and co-operative creameries and cheese factories added competition. Other Valley farmers specialized in potato farming: the sandy red loam east of Chelmsford produced tremendous, disease-free yields.⁶⁶

War-inspired commercial farming won the praise of the Sudbury Board of Trade; even so, board members, fearful of retaliatory action by the nickel firms, refused to provide area farmers with any meaningful aid in their battles over sulphur pollution.⁶⁷ A general public more concerned with mining and the war paid farming even less heed. Yet signs of progress were everywhere. District crop values increased by some 60%; fodder and root crops dominated. New implements like mowers and rakes eased fodder production, in turn supporting larger numbers of milk cattle, poultry, and sheep, all of which more than doubled in value. More livestock also implied more barns: farm building values doubled. All these gains—farm values increased over 50%—demonstrated the greater permanence of the district agricultural sector, worth well over \$7 million by 1922.⁶⁸ Thus a multi-million dollar farm economy was in place, seemingly headed to further commercialization and even higher values in the future.

A Failing Timber Economy

Contemporary observers and policy-makers welcomed the success of farming, which they viewed as a natural successor to the once-only timber “harvest.” Though clearly in decline, forest operations remained a means of sustenance when and where the mine or the farm fell short. Farmers, for instance, earned well over \$100,000 annually through sales of pulpwood, lumber, firewood, and other wood products.⁶⁹ They also found seasonal work at pulpwood operations that boomed with the wartime demand for newsprint. The Spanish River Pulp and Paper Mills Company, dating to 1905, was by wartime among the largest producers of newsprint paper in Canada; pulpwood-cutting fast supplanted lumber operations in local importance.⁷⁰

By 1916 large-scale pine lumbering operations were on their last legs, restricted to the Lake Penage and Upper Wanapitei watersheds on the western and northern edges of the Nickel Belt. So Sudbury’s lumbermen

turned to railway-based provisioning of more distant operations: the town remained a seasonal home and “jump off” point for the lumber crews. Local mills still ran: a few medium-sized mills produced in excess of one million feet per annum; many smaller mills cut as markets allowed. Specialized wood products added to the cut: tie-cutting remained viable and the roast yards consumed huge quantities of cordwood. These and other operations, like the pulp cutters, ignored the demise of local forests. The Royal Ontario Nickel Commission conceded that local forestry was “a disappearing business, for lumbering methods ... concerned themselves with only one crop of trees, namely the first.”⁷¹

The forest, then, provided some sustenance even after the virgin pine stands were a dim memory, but, increasingly, agrarian pursuits rose to the fore as newcomers took up new lands and longer-settled farmers introduced superior farming techniques, buildings, and equipment. The upshot was increasingly commercial agriculture, though success varied from farm to farm according to its newness, the limitations of the immediate physiography, the distance from markets, individual preferences and other factors. Contemporary observers, pointing to the recovery of the nickel industry, anticipated strong farm produce markets and in turn a stronger farm economy. Yet a booming nickel industry also implied more sulphur pollution. Area farmers, resigned to minimal, provincially mandated compensation for smoke damaged crops, had to take the bad with the good while creating an agricultural sector in a mining region.

The Home Front: Social Activity in Wartime

Church and secular organizations felt the impact of war as surely as the resource industries, for the brutality of the European conflict created unavoidable social tensions. Area churches welcomed new members seeking refuge from the horrors of war, but both the clerics and the lay members had to deal with issues ranging from social reform to conscription. The Roman Catholic Church, with a large francophone majority, was especially troubled by conscription and divisions over language. Both issues also affected the secular arena, where the francophone community espoused the *nationaliste* cause. Wartime stresses also focused attention on immigrants, who were blamed for the region’s continuing “wickedness” and condemned as enemy aliens or, alternatively, as Bolsheviks. “Mainstream” Canadian churches and secular organizations, enlivened by wartime enthusiasm, launched further attempts to “save” the new arrivals, but many immigrants opted for their own institutions, from churches to radical organizations. Applauded or castigated, the

rising tide of organizations gave the Nickel Belt a fast-maturing regional social infrastructure with Sudbury at its heart.

The Churches

War posed vexatious questions for Roman Catholic clergy already facing severe linguistic divisions within their church. Both the “Imperial” nature of the conflict and conscription were controversial, so local priests were understandably reticent about the conflict. Language tensions, however, could not be avoided: at St. Anne’s parish in Sudbury the always cool relationship between the francophone majority and a fast growing anglophone component became an open rift that, in 1915, culminated in the formation of a new English language St. Joseph’s parish. Strained relations persisted because St. Joseph’s, unhappy with its proposed location and short of funds, requested part of St. Anne’s property. Bishop Scollard, who earlier assured the St. Anne’s congregation that they would retain their properties, in 1915 nevertheless awarded St. Joseph’s Jubilee Hall and sufficient lands for a rectory and other facilities. An angry St. Anne’s appealed to higher Church authorities, but the decision stood. Thus two fast-growing, side-by-side congregations long harboured the anger evident in Father F.X. Descoteaux’s condemnation of Sudbury’s anglophone Catholics as “bitter enemies” of his St. Anne’s parish. Bishop Scollard, too, faced the wrath of St. Anne’s; his wartime appointment of Irish priests to churches at Capreol, Coniston, and Copper Cliff created more opponents.⁷²

The Bishop, for his part, dismissed claims of bias as “entirely false,” pointing out that the Diocese had forty-three francophone, nine Anglophone, and five “foreign” language priests. Sudbury-based Jesuits certainly were well-supported in their work, with French services the rule in the Valley and frequent elsewhere. Work at established parishes and missions continued apace, and new missions were established during the war era at Capreol, Burwash, Levack, and elsewhere; each in turn supported work at more remote locations as Roman Catholicism maintained its regional dominance.⁷³

The Protestant cause also prospered as the populace sought solace from the horrors of war. But the conflict generated heated discussion of potentially divisive issues. War-generated idealism sometimes saw social gospelism reinterpreted: the Reverend J.C. Cochrane of the Sudbury Methodist Church called for “new emphasis on the socialistic principles of Jesus Christ.”⁷⁴ More often, though, Protestants responded to the war by praising the Allied effort, or, as they put it, “the cause of

justice, truth, and righteousness."⁷⁵ All the Anglo-Protestant clergy used their pulpits to provide war news and promote conscription of men and wealth. War-inspired unity even extended to inter-church co-operation, especially among local Methodists and Presbyterians, who in 1915 voted overwhelmingly for the latest, unsuccessful church union effort; by 1917 the spirit of unity had eliminated all overlapping "aid receiving charges."⁷⁶

Practical co-operation—"Union" Churches and the like—helped the Protestant cause. Capreol's first call to a minister, directed to Presbyterian authorities, came from a representative of six Protestant denominations. Gains made through co-operation were cemented by the work of dedicated and versatile men. The Presbyterian missionary at Sellwood, for example, spent the summer of 1915 teaching first aid, gardening, and English; refereeing sports; providing "slide show" entertainment; they even ministered to mine and mill workers!⁷⁷ Such all-encompassing activity—the degree of effort naturally varied—brought considerable Protestant gains. Presbyterians, who in 1914 celebrated the formation of the Presbytery of Sudbury, stood in the first rank, followed by the Methodists; Anglicans made gains in Coniston and Capreol. Baptists were the exception, with a lower regional profile than even the Salvation Army, whose War Work Campaign won public support around the Nickel Range.⁷⁸ Whatever the denomination, work centred in Sudbury and, to a degree, Copper Cliff. Presbyterians at St. Andrews in Sudbury and Knox in Copper Cliff claimed about 40% gains in persons "under pastoral care" as the war wound down. The Sudbury and Copper Cliff Methodist congregations, the Anglican Church of the Epiphany, and St. John's in Copper Cliff all made solid gains.⁷⁹

Many of these congregations reached out to the "foreign" population, although local Anglicans showed little interest in winning over the immigrant. Area Methodists, in contrast, mounted a spirited Italian mission in Copper Cliff (1916); annual donations from INCO and the Women's Missionary Society enabled it to persist despite competition from the Roman Catholic St. Elizabeth's church in Copper Cliff (1914), which intended "to look after Italians of that place, of Creighton, Sudbury, Coniston, and of all other places in the vicinity."⁸⁰ The Roman Catholic clergy fared worse with area Ukrainians, who instead celebrated the occasional wartime visits of Father Nikitas Budka, Uniate Bishop of Winnipeg, and supported St. Nicholas Greek Catholic Church in Copper Cliff. But only a minority of the 2,000 or so "Ruthenian" Catholics lived there; when the postwar slowdown forced numbers of them out of Copper Cliff, the church fell into disuse. Many "Ruthenians" moved to Sudbury,

where they re-awakened efforts to establish a Greek Catholic church; some years passed before success was at hand.⁸¹

Other immigrants, doubtful of Catholic rites, turned to the practical aid offered by Presbyterians; these attracted over half of the (minute) local Chinese population.⁸² Practical help also drew Finns to the Finnish Presbyterian churches in Copper Cliff (1914) and in Louise Township (1916). The Reverend Arvi Heinonen also used less Christian tactics, branding Finns unwilling to convert to Presbyterianism as “reds”; INCO provided monetary aid and pressed its workers to join. Heinonen’s work, and INCO’s attempt “to force the Finnish immigrants into membership in a “company church, “lost momentum because of the postwar employee layoffs. As unemployed Finns left Copper Cliff, Heinonen moved to Louise Township, continuing his work against the “Bolsheviki” into the early 1920s.⁸³ Finnish Lutherans found little solace in the departure because INCO’s firings halved their *Wuoristo* (Mountain) congregation based in Copper Cliff. But they persevered, competing area-wide with Heinonen and new Finnish language proselytizing by Pentecostals, Jehovah’s Witnesses, and Missouri Synod Lutherans.⁸⁴

Secular Activities

Dedicated clerics and followers worked long and hard to grow religious institutions in the Nickel Belt, but even the most faithful commentators remarked upon the continuing indifference of many persons toward religion. Nor had the wartime “moral crusade” won many advocates; moralists bemoaned the liquor and “vice” related arrests that resulted in 9,255 convictions, second in Ontario only to Toronto. Even so, enforcement was hampered because prohibition enjoyed so little local support: two-thirds of voters called in 1919 for the introduction of government sponsored liquor sales, and 71% chose the “wet” option in 1921.⁸⁵

Social activity was not always “wicked,” of course. It included impromptu festivities like the gathering of some 7,000 persons to see the Duke of Connaught, Governor General of Canada, on his passage through Sudbury in 1914, or the celebrations that erupted after news of the Armistice.⁸⁶ But spontaneous activities became less frequent because established voluntary associations ranging from the Orange Lodge to the Knights of Columbus continued to flourish and new groups like the Elks (1914) were organized. Recreation, too, became more organized: sporting clubs common to nearly every community drew wide participation, while groups like the Nickel Belt Motor Club, the Idlewyld Golf Club, and the Women’s Art Association drew more select memberships. Wartime

concerns, meanwhile, resulted in a wide range of new organizations including the Sudbury and Copper Cliff Patriotic Societies (with regional roles), the Great War Veterans Association, plus several War Relief and Red Cross chapters. War inspired moralists also addressed social issues through institutions like the Woman's Christian Temperance Union (WCTU) and a large YMCA in Capreol; the Boy Scout and Girl Guide movements were aimed at the local youth.⁸⁷

But the conflict also created social tension because avowed francophones reacted strongly against Regulation 17 and conscription. Anti-conscriptionist, E.A. Lapierre, won a large majority in the Nipissing riding in the 1917 federal election; only the military polls prevented his election.⁸⁸ Anger at Regulation 17, which virtually eliminated French language education, was of longer standing. In 1915 the Sudbury Separate School Board was divided de facto into French and English sections; the former hired teachers highly competent in French, regardless of their certifications, and increased classroom use of French. School inspectors who questioned this direct confrontation with provincial guidelines gained little support from English board members satisfied with their "half" of the system, and faced the unbending will of the French-speaking members. "Whenever the inspector objected," Dr. J.R. Hurtubise rather smugly recalled, "we simply said we knew the proper way of teaching French children better than the department did and would not stand for any interference." There was no mistaking francophone convictions. "The cause is sacred," Zotique Mageau, member of the Ontario legislature, told an approving St. Jean Baptiste Day (1916) audience in Sudbury. "There is neither *rouge* nor *bleu*. It is French-Canadian and Catholic before all. It shall ever be so till they give us our language." These strong views made Regulation 17 a dead letter locally, for outlying school boards, intent upon maintaining good, "cheap" education, consciously mimicked the Sudbury board's example.⁸⁹ Francophone students gained a post-secondary option when the College du Sacre Coeur gained a French only configuration in 1917.⁹⁰ For their part, British Sudburians took out their frustrations at the ballot box—no francophones sat on Sudbury town council in 1918-1919. The unilingual council anglicized street names. Clearly, tensions were high.⁹¹

Immigrants, meanwhile, sought to alleviate wartime tensions through a variety of social organizations, though many still relied on the interpersonal support available in a "Little Italy" or "Polack Town." The small Chinese population in Sudbury organized a local of the Chinese Nationalist Movement (KMT) by 1918. It encouraged "positive" social

behaviour and sponsored a library, but a racist local press subjected the Chinese to repeated slurs.⁹² Immigrants from the Central Powers—“enemy aliens”—also drew negative scrutiny even when following the “rules.” Ukrainians were most numerous among the more than 630 who registered in the Sudbury area by 1915.⁹³ More often than not, these fears reflected British Canadian calls for an “unrestricted” war effort; such views made ethnic elements suspect. As Matt Bray puts it, “Sudbury became a less open and tolerant place.” The xenophobia had practical impacts: Sudbury taxed immigrant businesses; immigrants, town fathers argued, should help to pay for the war effort.⁹⁴

Local observers criticized ever more immigrants as war went on: the “Red Scare” saw Eastern Europeans and Finns wrongly lumped among “enemy aliens” and accused of “Bolsheviki” inspired sedition. Take a *Sudbury Star* editorial of 2 March 1918:

If anyone imagines that the doctrine of Bolsheviki is something mere akin to the present European political and military situation, present activities in Canadian labor circles, and more especially in the Canadian mining camps would open their eyes to the length and breadth of this movement and also the danger of its character. The average Austrian, Russian, Bulgarian, Roumanian, Finlander are discussing the doctrine of the Bolsheviki at their work, in their boarding houses and there is no question of a doubt that with a majority of them their mind is obsessed with the subject at the present time.⁹⁵

The Ukrainian Social Democratic local in Sudbury and the sixteen or so Finnish Organization of Canada locals scattered about the Nickel Belt were most affected. “Red Scare” pressures cut their memberships, but many members remained, a few drawn by ideology and many more by the pragmatic services and entertainments provided by these institutions. Those who left looked to competing societies, ranging from ethno-cultural groups like the Ukrainian *Narodni Dim* (Peoples’ Home) to the syndicalist Industrial Workers of the World, which featured a small, mainly Finnish local at Copper Cliff.⁹⁶

Itinerant “Wobblies” battled on, but competition from the WFM and the postwar One Big Union robbed the IWW of any war-generated momentum.⁹⁷ Little wonder: even cautious unions failed, with only the railway brotherhoods having some success.⁹⁸ Wartime did mark the rise of a new Sudbury (District) Trades and Labour Council (1916) that looked

to broaden Labour's influence.⁹⁹ The Labour Council found few friends amongst the regional elite. In nominating candidates for Sudbury Town Council, it outraged the pro-business *Sudbury Star*:

Labor, as dictated from the Trades and Labor Council, has made a specific and definite bid for control of Sudbury's municipal affairs. The chief objection to this is the obvious dictatorship which so-called Labor leaders have attempted at different times throughout the past year. The Sudbury Trades and Labor Council may be said to be in control of the radical or "red" element of Labor which has become altogether too numerous and too assertive[,] with the "red" doctrine said to be flourishing like the green bay tree. Appeals to class prejudice and many assertions subversive of good government have issued too often to be held as idle talk and the movement to gain control of the council may properly be interpreted as an attempt to set up an aristocracy of "red" labor in Sudbury.

Such allegations surely hurt the candidates, the most successful of whom fell just short of obtaining a seat on Town Council. William Mason, editor of the *Star*, applauded the "decided rebuke."¹⁰⁰

The trials of the labour council revealed that war-inspired social ferment was in steep decline. Area churches returned to preaching, taking less note of social reform and leaving inter-denominational unity to the Methodists and Presbyterians. Language tensions persisted among Catholics, but for many therein worked for the betterment of their Church. The secular arena, too, lost some of its vigour because the Armistice quieted the fervent patriotism of various societies even as pressures from the state, business, and mainstream Canadian institutions took their toll on ethnic societies. Nonetheless, the war era left a wealth of new organizations as area society rapidly doffed its frontier heritage. Sudbury—the heart of institutional activity—compared favourably with like-sized centres in older portions of Ontario.

Community Settings

Wartime events saw Sudbury, at the hub of the regional transport and communications network, as the major beneficiary of war-inspired expansion in social, commercial, and administrative activities. New businesses, a greatly enlarged population, and the requisite housing construction were the most obvious indications of Sudbury's prosperity.

Only the largest mining centres and Capreol, a CNR town, enjoyed anything like the same services thanks to corporate monies. Dependence on a single firm carried real risks—several communities failed once firms withdrew. Risks notwithstanding, Sudburians viewed closer ties to mining as the key means of continued expansion. Focused on growth, Sudbury’s leaders failed to recognize that dependence on mining meant new populations, issues, and dependency. For now, they revelled in Sudbury’s wartime prosperity and its now unchallenged regional dominance.

Administration and Services

Sudbury’s wartime progress in part reflected funds from higher levels of government. Federal public works, the new Canadian National Railway, and various other federal departments had local roles. Provincial agencies were even more active. The new Burwash prison farm sped development south of Sudbury and provincial inspectors, police, officials, and monies—for the Childrens’ Aid Society, libraries, and various social services—were major helps. Education was especially well served: Ontario funded existing institutions and thirty or so schools opened in the war era.¹⁰¹

Towns also enjoyed the benefits of privately funded services dependent upon concentrated populations. Telephone service, for example, was effectively limited to a large, modern Bell network serving Sudbury and Copper Cliff, with smaller private systems in Coniston and Chelmsford.¹⁰² Transit service, meanwhile, was practical only between Sudbury and Copper Cliff; hence the wartime start of the Sudbury-Copper Cliff Suburban Electric Railway. Dreamt of since the 1890s, the railway scheme faced INCO opposition until the new provincial trunk road from Sudbury broke Copper Cliff’s isolation. Work on the rail line began in 1913; on 8 November 1915 the costly, “substantial” line began operations. It was well-received, with at least 200 persons commuting from Sudbury to Copper Cliff. Service soon doubled and the system was expanded northeast to the “Flour Mill” and southwest to Lake Ramsay, providing most Sudburians with street railway service.¹⁰³ Together, the street railway and telephone gave Sudbury a sophistication well beyond the reach of neighbouring centres.

Communities Not Dependent Upon Mining

While Sudbury was the main beneficiary, private and public funds also brought progress elsewhere in the Nickel Belt. Take Capreol, a divisional and junction point on the CNoR system, home to thirty or more families

by 1916, along with various commercial and social facilities. These, in turn, drew more people. Capreol achieved town status in 1918, making available further tax monies, debenture loans, and provincial-aid, which supplemented services and order maintained by the rail firm. The CNoR's largesse gave it a strong voice in municipal affairs, which residents saw as the price of progress—after all, Capreol's population tripled, reaching 1,500 (1921). Those unhappy with the railway's overbearing influence settled just north of Capreol's boundaries in an unorganized village known as Norman.¹⁰⁴

The CNoR's largesse put Capreol well ahead of most mixed-economy communities. These villages retained remnants of earlier prosperity, with a railway station, post office, school, a few businesses, and one or more chapels. But they suffered steep declines because of improved access to Sudbury: their populations often declined to fifty or fewer persons and local township municipalities or statutory boards lacked the fiscal resources to stem the downward slide.¹⁰⁵ Only the town of Chelmsford, with 1,045 mainly francophone residents (1921) plus a commercial and social base dependent upon Valley agriculture, stayed stable. Even there, town fathers were limited by a tax levy averaging less than \$3,500.¹⁰⁶

Mining Communities

Mineral industry communities were less afflicted by tax shortfalls, or Sudbury's increasing reach, because the mining firms provided funds and sponsored improvements. By war's end, several mining villages featured sidewalks, streets and drainage, new utilities, improved schools, churches and halls, plus company-paid civic employees. Good quality, company-built houses added a sense of permanence; war-driven production booms led to population growth and, in turn, more retail, service, and social facilities.¹⁰⁷ INCO, not surprisingly, led the way. For instance, it committed over \$500,000 for improvements at Creighton. The 162 well-serviced houses erected in wartime stood in sharp contrast to the "tumbling terraces" of older Creighton. Home to "wandering miners of many nations," Creighton housed about 2,350 persons by 1918. Many would depart as the postwar recession took hold.¹⁰⁸

The rise and fall of other INCO centres was more dramatic. Crean Hill, INCO's "second" mining village, prospered during wartime; a population of some 600 enjoyed all aspects of a small town, with the requisite services. But the post-Armistice slump left Crean Hill a ghost town. Froid suffered a variant fate. Built to support operations at the Froid mine, the town featured fully-serviced houses plus police, garbage, and other services.

But INCO focused operations at Creighton; by 1915 Frood Mine was abandoned.¹⁰⁹

Mond Nickel's mining communities met various fates. Its smallest camps—North Star, Kirkwood, and the like—disappeared when the associated mines were closed. The firm's oldest mining village, Mond, remained a rather rustic cluster of ninety or so unserviced, wooden buildings on haphazardly intersecting dirt streets. Its slow demise paralleled lower ore-production linked to an ever-deepening ore body. The large Finnish component left first; Poles and French Canadians followed. The village literally disappeared in about 1923, with building removed by Mond and nearby settlers.¹¹⁰ Garson and Worthington, in contrast, grew during the war. Both featured new, relatively well-made homes and older, "hopeless, shackly, unpainted" quarters. Levack, a new village, had ninety-five company-built homes as well as rougher private dwellings erected by immigrant workers—Poles, Finns, and Ukrainians—on a separate site called "Warsaw." These Mond villages suffered grievous postwar production cuts, but each sustained some postwar activity because of Mond Nickel's strategy of continued production.¹¹¹

"Smelter Towns"

Mineral reduction centres faced slightly different fates because the smelters operated long after the mines had closed; also their plants generally serviced more than one deposit. The exceptions were towns whose fortunes fluctuated along with the respective mining firms—BANCo and Moose Mountain (Iron) Mining. Some 1,500 persons lived in Sellwood when wartime sales dictated full-scale operations, but the well-serviced, company-built village, featuring neat rows of houses, stores, halls, and churches, dwindled after 1918; it was deserted by 1923. BANC, for its part, dropped earlier (1916) plans for a company town; its workers would have to live in Sudbury. But high housing costs and an inconvenient four-mile commute from Sudbury soon necessitated erection of about forty dwellings and a boarding house at its smelter site. Soon, Nickelton was home to 300 persons and a few commercial and social endeavours. These beginnings proved illusory: BANCo's ensuing failure saw the village deserted by 1923.¹¹²

Coniston, on the other hand, displayed some stability because Mond maintained some smelter operations. This latest commitment to Coniston's prosperity followed major wartime spending on housing, schools, churches, and full blown civic services at the village core, known as "English town." But the bulk of the population lived in the adjoining

“Polack,” “Italian,” or “French” towns; there, they made do with few services, insubstantial housing, and poor conditions that worsened as wartime need saw Coniston’s population rise from 100 in 1914 to 1,000 by 1918. Coniston’s population bottomed out in 1920 at about 850 persons, but by 1923 Coniston boasted 1,265 residents. The quick recovery—a great relief to Coniston’s business and social sectors—reflected Mond’s “longer view” tactics.¹¹³

INCO’s wartime policies also won considerable praise in the communities associated with its reduction plant. At O’Donnell—a new village in Graham Township housing those persons dependent upon the roast yards that INCO built there in 1916—the residents fared well. By 1918 O’Donnell featured good, well-serviced housing, various commercial and social facilities, the mails and Algoma Eastern Railway (AER) service, all because of INCO’s direct or indirect aid.¹¹⁴ Copper Cliff, meanwhile, was a major beneficiary of the giant nickel firm’s wartime largesse. Every aspect of community life prospered because of INCO funding, giving Copper Cliff physical and social services second to none in the Nickel Range. The corporate aid also kept municipal costs and taxes quite low: in 1921, for example, Copper Cliff’s per capita tax was \$7.29, compared with \$31.60 in Sudbury. Long-term debt, meanwhile, was one-tenth of Sudbury’s burden. Businessmen in Copper Cliff reaped further gains because wartime expansion provided steady work and improved wages for INCO employees, who formed 67% of the town workforce. But the business sectors of both O’Donnell and Copper Cliff also faced INCO’s overbearing influence; private growth was strictly limited through INCO’s control of real estate. Society was hardly open: the *Northern Miner* complained in 1916 that Copper Cliff was “a walled city, secret and secretive.” Little wonder that few residents openly complained about the choking sulphur fumes and naked ground making O’Donnell and Copper Cliff so dreary.¹¹⁵

Besides, clean air was associated with economic slowdown, like the postwar closures that revealed INCO’s indifference towards its employees during times of economic stress. O’Donnell was hardest hit: all of its 300 or so residents left in 1919, driven out by INCO’s decision to cancel roast yard operations until the nickel markets recovered. INCO’s smelter town fared little better, for the firm decided to “shut Copper Cliff up tight.” INCO evicted tenants of company-owned housing. As the firm owned more than half of the 730 or so dwellings in Copper Cliff, the population plunged from nearly 5,000 in 1916 to just 2,314 in 1922. Retailers hit by the departures struggled to overcome now easily accessible rivals in Sudbury. The concurrent decline in business and population, exacerbated by the

demoralizing influence of closed nickel plants, forever ended Copper Cliff's chances of being more than an INCO dormitory town.¹¹⁶

Sudbury

Sudburians, the beneficiaries of Copper Cliff's decline, sought even greater progress. The town's leading citizens were confident that Sudbury's excellent rail connections, plus a central place on the Trunk Road and communications networks, assured continued growth of the administrative, social, and commercial functions—in short, ever more regional primacy. One need only consider that Sudbury boasted four newspapers—with combined circulations of 6,500 in 1918—to sense the optimism.¹¹⁷ Proud civic leaders pointed especially to a wide range of financial, retail, manufacturing, transportation, and other businesses, far more than Copper Cliff, the second largest local centre. Indeed, the diverse business sector was by war's end unmatched in Northern Ontario.¹¹⁸

The success of the mixed economy assured an aggressive and confident Sudbury town council, whose members routinely ignored promises “to practice economy in every department” and instead authorized more and more civic spending.¹¹⁹ The search for more and cheaper electricity provided further evidence of the civic commitment to progress. Sudburians, weary of Wahnapiatae Power's indifferent service, sought “hydro” elsewhere, but repeated calls for Hydro-Electric Power Commission (HEPCO) service were in vain.¹²⁰ Failure to win HEPCO service did not shake the resolve of Sudbury's town council; it maintained liberal incentives for new businesses and continued to improve civic services despite the postwar recession. To justify their actions the councillors pointed to a substantial, brick, urban core, featuring large stores, offices, churches, and other social edifices. They also cited a rapidly expanding population, up from 4,150 in 1911 to 8,621 in 1921, adding that new subdivisions, especially fast-rising Gatchell subdivision alongside the westerly Suburban Electric Railway, added substantially to the number of persons calling Sudbury home. Last, but certainly not least, they continually praised their town's varied economic base.¹²¹

But the mixed economy was somewhat misleading. The social and administrative infrastructure was nearing maturity, leaving little room for expansion. More important, the apparently varied business sector relied mainly on a relatively narrow natural-resource base for its prosperity; with forestry in decline, the mineral economy assumed new importance. Improved travel options and corporate policy—INCO restricted the housing supply in Copper Cliff and BANCO opted against a company

town—saw miners and smelters opt for the greater services and freedoms available in or just outside Sudbury. The influx of mineral workers quadrupled the town’s “foreign” population to 1,174 persons, most of whom settled in fast-emerging ethnic quarters on the northeastern and western fringes of Sudbury. These highly visible immigrants frightened nativist elements among the 4,331 Sudburians of British background, although Sudbury’s francophones, numbering 3,091 in 1921, seemed less concerned, perhaps because they were clustered in their own “Flour Mill” sector. Less racist critics, meanwhile, saw the risks inherent in entrusting Sudbury’s future to an industry so frequently beset by market-or-corporate-induced slowdowns. They urged further diversification of Sudbury’s traditional commercial, social, and administrative functions, fearful that closer ties to mining would reduce the town to dependent, company-town status.¹²²

Their pleas fell on deaf ears even during the depths of the postwar recession. Few Sudburians harboured dark forebodings: after all, their town faced no threat from the much smaller regional communities linked to rail, farm, or forest. The major mineral centres—Copper Cliff, Coniston, and Creighton—managed very quick wartime gains, but suffered serious declines thereafter. The war also brought a major expansion in Sudbury, with postwar slowdowns partially offset by that diversity and the arrival of individuals and families departing nearby mineral centres.

Conclusion

Early on 11 November 1918, the Nickel Belt began to celebrate. In Copper Cliff:

News of the signing of the armistice was received at 3:06 a.m. Monday morning ... by 4 o’clock the main street was black with people. An impromptu procession was formed, men, women and children, old and young nearly all with some means of making a noise.... The parade wound up at Nickel Park, where the Maple Leaf, O Canada, the National Anthem and other patriotic singing took place.¹²³

The First World War, for all its horrors, marked a prosperous time for the Sudbury area, which in turn quickened improvements to the daily necessities of life, from roads to services, while the tensions of war produced a more diverse social landscape. This progress, enhancing the quality of life, was possible because wartime needs propelled the nickel industry to record production. While agriculture expanded and forestry remained

active, the regional economy became increasingly dependent on INCO and Mond; unfortunately, these firms found postwar disarmament a far greater threat than the wartime nationalism that questioned their control of nickel production. The Armistice left both firms facing severe declines in sales, which necessitated massive production cuts. A new emphasis on commercial sales eventually led to renewed activity and promised future prosperity, but the postwar events provided ample evidence of the risks inherent in relying on a single resource. Most Sudburians, aware of the potential of the nickel industry, hoped that renewed civic prosperity and enhanced regional primacy outweighed the dangers of dependency. The ensuing decade would test the soundness of their judgment.

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Notes

1. *Sudbury Star*, 8 Aug 1914, 1. Sudbury's wartime newspapers and the *Financial Post* provide abundant historical records. For reasons of space, newspaper citations are minimized. Exceptions include quotes and some statistics.
2. Matt Bray, "1910–1920," in *Sudbury: Rail Town to Regional Capital*, eds. C.M. Wallace and A. Thomson (Toronto, Dundurn, 1993), 86–87; "Canadiansoldiers.com," accessed 5 May 2016, <http://www.canadiansoldiers.com/index.htm>.
3. Cynics might argue that INCO leadership gave the firm control of the local Society. On results: Philip H. Morris, *The Canadian Patriotic Fund: A Record of Its Activities from 1914 to 1919* (Ottawa, Canadian Patriotic Fund, 1920), 207, 282, 299, 326, 328.
4. *Sudbury Star*, 19 Sep 1914.
5. *Sudbury Star*, 24 Jul 1915. Funds were collected in Sudbury, Copper Cliff, Coniston, and Creighton.
6. Ray Kaattari, *Voices from the Past: Garson Remembers* (Sudbury, Journal Printing, 1992), 123. For donations: Bray, "1910–1920," 88–90.
7. INCO and Mond merged on 1 Jan 1929. Corporate records have largely remained closed. According to those few given archival access, records for the First World War period reveal little about corporate strategy. Thomas H. Nicholson, "A Sordid Boon': The Business of State and the State of Labour at the Canadian Copper Company 1890 to 1918" (M.A. diss., Queen's University, 1991), 124.
8. On the 1914 slowdown, the *Financial Post*, *Sudbury Star*, and *Sudbury Journal* have many reports. Also: *Engineering and Mining Journal [EMJ]* 98 (5 Sep 1914): 459 and 98 (24 Oct 1914): 761; and Stacey Zembrzycki, "Memory,

- Identity, and the Challenge of Community among Ukrainians in the Sudbury Region, 1901–1939” (Ph.D. diss., Carleton University, 2007), 93–95.
9. Edward H. Robie, “Nickel,” in *The Marketing of Metals and Minerals*, eds. J.E. Spurr and F.E. Wormser (New York, McGraw-Hill, 1925), 141.
 10. *Canadian Engineer* 11 (Oct 1904): 288.
 11. *Sudbury Star*, 8 Aug 1914, 1. The *Canadian Mining Journal* [CMJ] was also an INCO ally: see 5 Oct 1914, 661–662; 1 Dec 1914, 757; 15 Dec 1914, 789–790.
 12. Ontario, *Report of the Bureau of Mines (OBM)* (1915): 96–98; (1916): 15, 70–73; (1917): 23, 77–83; (1918): 25, 89–91; (1919): 22, 108–109. Additional details are available in Canada, Department of Mines, Mines Branch, *Annual Report of Mineral Production*. For reasons of space, it will not be extensively cited.
 13. *OBM* (1915): 97; *Sudbury Star*, 21 Mar 1914; INCO Staff, “The Mining and Smelting Operations of the International Nickel Company of Canada, Limited,” *Transactions of the Canadian Mining Institute* (1920), 103.
 14. *OBM* (1916): 69–70; (1917): 76–77; (1918): 89; (1919): 109; INCO Staff, “The Mining and Smelting Operations,” 64, 66; *CMJ* 37 (15 Aug 1916): 391; *INCO Triangle*, 2 (Nov 1938): 13.
 15. *Sudbury Star*, 2 Sep 1915, 2. On sulphur damage: Daniel Bouchard, “Pollution, science et pouvoir: l’histoire du désastre écologique à Sudbury (1883–1945) derrière l’écran de fumée” (Ph.D. diss., University of Ottawa, 2003).
 16. In 1913–14 Mond acquired several properties and doubled its share capital, but left it somewhat more financially vulnerable. *Financial Post*, 27 Jun 1914. Also: 5 Sep, 15 Oct 1914.
 17. *OBM* (1915): 24, 99–102; (1916): 15, 73–77; (1917): 23, 83–87; (1918): 25, 87, 89, 95–97; Mond Nickel Co., *The Mond Nickel Company Limited* (n.p., Mond Nickel Co., 1918), passim (compare with the 1914 edition); Ontario, *Report of the Royal Ontario Nickel Commission (RONC)* (Toronto, King’s Printer, 1917), 487; *Sudbury Star*, 17 Feb, 13 May 1915.
 18. *OBM* (1916): 73; (1918): 96; Eugene Haanel, “The Utilization of Some of Our Non-Metallic Minerals Resources, Suggested by Present Conditions,” in *Canada, Commission of Conservation, Annual Report*, (1915): 46; *Financial Post*, 27 Jun 1914; 18 Aug 1917.
 19. *OBM* (1915): 99; *The Mond Nickel Company*, 29; *Financial Post*, 18 Aug 1917.
 20. Gray saw gains in copper income justified “by the law of supply and demand.” Alexander Gray, “The International Nickel Company,” *The Varsity Magazine Supplement* (Dec 1916), Toronto, 134. Copper prices did rise: *Financial Post*, 15 May 1915, 10 Mar 1917. Also: Alfred Stansfield, “Some Effects of the War on the Metallurgical Industries of Canada,” *TCMI* 19 (1916): 132. On industry policy: Oscar W. Main, *The Canadian Nickel Industry: A Study of Market Control and Public Policy* (Toronto, University of Toronto Press, 1955), 87. Also: *RONC*, 7. 72, 83–84 and *Financial Post* 2 Jun 1917, 17 Jun 1927, 8 Jan 1931.

21. Most new firms existed only on paper: *OBM* and Canada, "Synopsis of Letters Patent Issued to Companies," *Report of the Secretary of State of Canada*, 1914–18. Details in *Canada Gazette*, *Ontario Gazette*, and newspapers.
22. Commission's resolution dated 17 Apr 1916. Munitions Resources Commission Canada, *Final Report of the Work of the Commission* (Toronto, The Commission, 1920), 11. Alex Skelton, "Nickel," in *International Control in the Non-Ferrous Metals*, eds. W.Y. Elliot et. al. (New York, Macmillan, 1937), 143. H.V. Nelles, "The Politics of Development: Forests, Mines and Hydro-Electric Power in Ontario, 1890–1939" (Ph.D. diss., University of Toronto, 1969), 550–554; *Financial Post*, 17 Apr 1915.
23. W.A. Carlyle, "The British American [sic] Nickel Corporation, Limited," *CMJ* 42 (Mar 18, 1921): 209–212. Details: *OBM* (1917): 87; (1918): 91–92; (1919): 22, 106–108; *RONC*, 89; *CMJ* 37 (1 Oct 1916): 462–462; 38 (1 May 1917): 196–197; 38 (1 Sep 1917): 337; *Saturday Night*, 2 Sep 1916.
24. The Nickel Question is much discussed. For an anti-INCO recollection: J.F. Black, "Nickel is the Issue in Northern Ontario Ridings," *Toronto World*, 6 Oct 1919, 6. Key histories include: Main, 82–89; Jean-Claude St, Amant, "La question du nickel pendant la première grande guerre," *Documents historique de la Société historique du Nouvel-Ontario (Documents historique)* 68 (1978): 5–32; Nelles, "Politics," 546–561; Peter Oliver, "The Making of a Provincial Premier, Howard Ferguson and Ontario Politics: 1870–1923" (Ph.D. diss., University of Toronto, 1969), 210–220; Christopher Armstrong, "The Politics of Federalism: Ontario's Relations with the Federal Government, 1896–1941" (Ph.D. diss., University of Toronto, 1972), 137–142; Main, 82–89.
25. Black, a gardener, knew sulphur smoke's impact on plants. Letter, 29 Dec 1915: Donald Dennie, "Sudbury 1883–1946: A Social Historical Study of Property and Class" (Ph.D. diss., Carleton University, 1989), 220–224.
26. *Canadian Engineer*, 27 (31 Dec 1914): 813; *Financial Post*, 1 Jan 1915; see also Main, 83.
27. Munitions Resources Commission Canada, *Final Report* (Toronto, King's Printer, 1920), 10. National attitudes seen in *Canadian Annual Review* (Toronto, Annual Review Publishing) [CAR] (1915): 545–548; (1916): 532–540.
28. Ferguson to Borden, 19 Jan 1916. See Peter Oliver, *G. Howard Ferguson: Ontario Tory* (Toronto, University of Toronto Press, 1977), 83.
29. Canada, "Correspondence between the International Nickel Company and the Prime Minister," unpublished Sessional Paper, 1916, no. 78; Monell's response: H.V. Nelles, *The Politics of Development* (Toronto, Macmillan, 1974), 355, note 15. See also: Henry Borden, ed., *Robert Laird Borden: His Memoirs* (Toronto, Macmillan, 1938), 628–642. Popular attitudes nationally are evident in *CAR* (1914): 319–321; (1915): 545–48; (1916): 532–40.

30. Quotes: *Financial Post*, 22 Jul 1916; *Sudbury Star*, 29 Jul 1916. Also: Main, 82–85; *Toronto Star*, 5 Oct 1914; *Financial Post*, 15 Jul 1916; *Sudbury Journal*, 14 Jan 1915.
31. Alexander Gray, “The International Nickel Company,” *The Varsity Magazine Supplement* (1916): 134.
32. *Financial Post*, 15 Jul 1916, 22 Jul 1916; *Sudbury Star*, 29 Jul 1916.
33. The RONC Report includes some 1,000 pages of information, much of it confirming the power of INCO despite the Commissioners’ conclusions. For criticism of the Commission: *Sudbury Mining News*, no date, quoted in the *Sudbury Star*, 30 Mar 1921. Also CAR (1917): 657–660.
34. Main, 88; his discussion: 82–89, 130. On the tax: Ontario. *Statutes*, 1917, 7 Geo.V, c.7; also: F.H. Gisborne and A.A. Fraser, comp., *Correspondence, Reports of the Minister of Justice and Orders-in-Council upon the Subject of Provincial Legislation 1896–1920* (Ottawa, King’ Printer, 1922), 184–200. INCO’s American tax burden also rose sharply (about 18-fold) between 1916 and 1918. *Financial Post*, 3 May 1919.
35. Canadian Copper mining operations were also amalgamated with other INCO elements to avoid double taxation. *The Times*, 29 Apr 1918, 9. INCO’s entry into public relations discussed in Peter Krats, “The Fascinating Panorama INCO Paints’: The INCO Triangle as a Site of Corporate Imagery Strategy, 1936–1956” (paper presented at the 13th Maple & Eagle Conference, University of Helsinki, May 2010).
36. *EMJ* 109 (17 Jan 1920): 124; On the INCO slowdown: *OBM* (1919): 109; (1920): 16, 18, 73; (1921): 16, 67–69; (1922): Part I, 15, 34–35, Part X, 25–26; *Northern Miner*, 5 Mar 1921, 14 Jan 1922; Main, 92–93.
37. Profitability seemingly returned about Nov 1922. See: *OBM* (1923): Part I, 15, Part VI, 34–35; (1924): Part I, 15, Part VII, 23–24; *Northern Miner* 29 Apr, 17 Jun, 12 Aug, 9 Dec 1922.
38. Compiled from: *OBM* (1920): 18, 74–75; (1921): 16, 77–78; (1922): Part I, 15 Part X, 27–28; (1923): Part I, 15, Part VI, 35–37; (1925): Part I, 15 Part VI, 25–26; *Mining Magazine* 20 (May 1919): 291; *Sudbury Star*, 2 Apr 1919, 14 Sep 1921, 14 Jun 1922.
39. On BANC’s end: *Financial Post*; *Northern Miner*; *Sudbury Star*; and *Saturday Night*, 26 Jul 1924, 18 Jul 1925. On INCO and Mond acquiring the assets: *Toronto Globe*, 4 Nov 1925; Main, 156, n. 42.
40. *OBM* (1922): Part X, 23; *Sudbury Star*, 6 Nov 1920, 16 Mar 1921, 20 Jul 1921; *Financial Post*, 4 Mar 1921, 25 Mar 1921, 9 Sep 1921.
41. RONC, 225.
42. On workforces and productivity: Guy Gaudreau, “Ethnicité et division due travail dans la modernisation d’une entreprise minière: la Canadian Copper Company, 1886–1928,” in *L’histoire des mineurs du Nord ontarien et québécois 1886–1945*, ed. G. Gaudreau (Sillery, Éditions du Septentrion, 2003), 67–92; Paul de la Riva and Guy Gaudreau, *Les ouvrières-mineurs*

- de la région de Sudbury (1912–1930): le cas de l’International Nickel Co.” in *ibid.* 117–141; and Paul de la Riva, “Les ouvrières mineurs Canadien-français de l’International Nickel Company (l’INCO), 1886 à 1930” (M.A. diss., Laurentian University, 1995).
43. RONC, 212–237; INCO Staff, “The Mining and Smelting Operations,” 73–102; C.V. Coreless, “The Metallurgy of Nickel-Copper Ores of Sudbury,” *Financial Post*, 27 Oct 1922; Oliver Hall, “Mining Methods at the Mond Nickel Company’s Mines,” *Transactions of the Canadian Mining Institute* 22 (1919): 180–186; R.N. Palmer, “Mining Methods at the Worthington Mine,” *ibid.* 21 (1918) 127–144; Joseph Boldt, *The Winning of Nickel: Its Geology, Mining and Extractive Metallurgy* (Toronto, Longmans, 1967), 96–106.
 44. John Lang, “‘A Lion in a Den of Daniels’: A History of the International Union of Mine, Mill and Smelter Workers in Sudbury, Ontario 1942–1962” (M.A. diss., University of Guelph, 1970), 26.
 45. Ralph Stokes, *Mines and Minerals of the British Empire* (London, Edward Arnold, 1908), 10.
 46. *Työkansa*, 1912: Jan 2, Mar 1 & 8, Jun 5, Jul 20.
 47. *Työkansa*, 1912: Oct 14 & 30, Nov 2, 5 & 12.
 48. *Sudbury Star*, 19 Aug 1916; Canada, *Labour Organization in Canada* (1913): 94, 107, 158, 174; John Penttinen, “Muistelmia Garsonista,” [Garson Memories] in *Suomalaiset Nikkeliäluella: C.S.J.:n Sudburyn osaston 25-vuotisjuhlan johdosta* ed. H. Sula (Sudbury, Canadian Suomalainen Järjestö, 1937). A translation is in: Mike Solski and John Smaller, *Mine Mill: The History of the International Union of Mine, Mill and Smelter Workers in Canada since 1895* (Ottawa, Steel Rail Publishing, 1984), 99.
 49. Canada, *Labour Organization in Canada* (1914): 226; (1916): 73, 138, 221; John Penttinen, “Muistelmia Garsonista,” 60; *Toronto Star*, 18 Aug 1916; *Sudbury Star*, 19 Aug 1916. On the blacklist: John Latvala, Sellwood, to FOC National Office, 22 Jan 1914 “Correspondence, National Office” FOC Collection, Public Archives of Canada MG 28 V46 vol.2, no. 2.
 50. Turner to Bostwick, 9 Oct 1913. See Nicolson “A Sordid Boom,” 63.
 51. INCO used its police and the Thiel Detective Agency for “security.” See Eileen Goltz, “The Exercise of Power in A Company Town” (Ph.D. diss., University of Guelph, 1989), 167; Note 130, p. 200. On Moose Mountain: John Latvala, Sellwood, to FOC National Office, 22 Jan 1914; Also: *Työkansa*, 3 Jun 1913; Penttinen, 59–60; *Sudbury Star*, 5 Aug 1914, 18 & 19 Aug 1916; Canada, *Labour Organization* (1914); 226 (1916): 73, 138, 221.
 52. Ontario, “Newspaper Hansard,” 4 Apr 1916; *Northern Miner*, 22 Jan 1916, 11 Dec 1916; *Industrial Banner*, 8 Jun 1917; see also: 17 Nov 1916, 31 Aug 1917, 28 Sep 1917; *Sault Star*, 19 May 1919.
 53. *Sudbury Star*, 23 Oct 1915, 27 Oct 1915, 19 Aug 1916; 2 April 1919; *Northern Miner*, 30 Oct 1915, 6 Nov 1915; *Financial Post*, 23 Sep 1916; *Toronto Globe*, 2 Oct 1919; *Labor News*, 25 Dec 1914.

54. The IWW and WFM had split over strategy. *Industrial Worker*, 29 Mar 1913.
55. Canada. Royal Commission on Industrial Relations, "Evidence," 17 May 1919, Vol. 3., Walker: p. 1975; Eldridge: p. 1972; Fortin: p. 1935. For a local view: *Sudbury Star*, 17 May 1919 and 21 May 1919.
56. Ibid. See testimony of Corless: p. 1902; Agnew: p. 1927; Carlyle: p. 1944.
57. The Coniston local disappeared in 1920. On "Monaldi": *OBU Bulletin*, 27 May 1920, 2. On Mine Mill: *Sudbury Star*, 2 Apr 1919, 17 & 21 May; 13 & 17 Sep 1919; *Sault Star*, 19 May 1919; *Northern Miner*, 7 Jun 1919; *Globe*, 2 Oct 1919; Canada, *Labour Organization* (1919): 186, 208; (1920): 214. Solski and Smaller, 10, 66–69. Canada, *Labour Organization in Canada* (1916): 73; (1919): 186, 208; (1920): 16–17, 23–24; Trades and Labour Congress of Canada, *Report* (1918): 161.
58. *Sudbury Star*, 23 Jun 1917. Summer 1915 saw unprecedented crop damage: *ibid.*, 11 Sep 1915. Also: Ontario, "Return ... dated 11th Apr 1916 ... [re] damage to property by the International Nickel Company...," *SP*, 1917, no. 65. For details: Bouchard, "Pollution, science et pouvoir," chapter 5. Also: Matt Bray, "The Province of Ontario and the Problem of Sulphur Fumes in the Sudbury District: An Historical Perspective," *Laurentian University Review [LUR]*, 16 (Feb 1984): 82–87. Ontario retained the clauses when withdrawn lands were sold in the 1920s. The Damage by Fumes Arbitration Act of 1921 kept compensation low.
59. See: Ontario, *Report of the Northern Development Branch* (title varies) 1912–1922 (prefaces). These reports, plus Ontario, *Public Accounts of the Province of Ontario*, 1914–22, offer details on local road construction and improvement.
60. Agricultural Representative's reports available in the Ontario Archives. For details on provincial aid: Ontario, "The Assistance of Settlers," *Report of Northern Development Branch*, 1916–22. Also see Ontario, *Annual Report of the Department of Agriculture* and Canada, *Report of the Minister of Agriculture for the Dominion of Canada*. Also: Canada, *Report on the Agricultural Instruction Act*, 1915–23.
61. Canada, *Census of Canada*, 1921, vol. 5, Tables 80–82, 86, pp 157, 242–43, 345–47, 610–611. Local histories add detail and colour. See, for example, Beaver Lake Area Historical Committee. *Better Known as Beaver Lake: An History of Lorne Township* [title varies], 2 vol., eds. G. Tapper and O. Saarinen (Sudbury, The Committee, 1998), 2003.
62. Peter Krats, "Finnish Rural Life in the Sudbury Basin" (paper presented at the Agricultural History of Ontario Seminar, Guelph, 1983); Krats, "Sudburyn Suomalaiset': Finnish Immigrant Activities in the Sudbury Area, 1883–1939" (M.A. thesis, University of Western Ontario, 1980); Thomas F. Barton, "Agricultural Landscapes of the Sudbury Area, Ontario," *Illinois State Academy of Science Transactions* (1941), 130–37.
63. Ontario, *Report of the Minister of Lands, Forests and Mines*, [Lands, Forests] 1916, vii.

64. Barton, 130–37; W.J.B. Kay, “Field Supervision of Settlers under the Soldier Settlement Act in the Sudbury District” (B.A. diss., Ontario Agricultural College, 1921), 14–16; Gaston Belanger, “L’agriculture dans Rayside et Balfour 1900–1950” (B.A. diss., Laurentian University, 1980); Ontario, *Annual Report of the Agricultural Societies*, 1918, 88; *Sudbury Star*, 26 Nov 1921, 30 Jun 1922.
65. Canada, *Census of Canada*, 1921, vol. 5, Tables 80–82, 86, pp 157, 242–43, 346–47, 610–11; Ontario, “Statement showing the number of Locatees and of acres located; of purchasers and of acres sold... and of patents issued in Free Grant Townships...,” *Lands, Forests*, 1914–22; idem, “Statement showing the number of purchasers and of acres sold... in the Townships other than Free Grant during the year,” *ibid.*, 1917–22. My calculations.
66. *Sudbury Star*, 5 Aug 1914, 7 Sep 1918, 23 Aug 1919; *Ontario Gazette* 49 (Sep 23, 1916): 1382; Canada, “Synopsis of Letters Patent,” 1915, 123; Jeanne Vaillancourt, *Chelmsford, 1833–1983* (Ottawa, Le Club de 50 de Chelmsford, 1983), 262; Belanger, 43–44. For District-wide detail: Canada, Dominion Bureau of Statistics, *Census of Industries*.
67. *Sudbury Star*, 29 Jul 1922.
68. Calculated from Ontario, Department of Agriculture, “Agricultural Statistics,” *Annual Report of the Bureau of Industries*, 1913, and idem, *Annual Report of the Statistics Branch*, 1922. Only District figures are available.
69. Canada, *Census of Canada*, 1921, vol. 5, Table 38, 687.
70. *Montreal Gazette, Commercial. and Financial Review* (1919):47; Houston’s Publications, *The Annual Financial Review* (1915): 291; (1916): 309; (1917): 317; (1919): 360; (1920): 376–77; (1921): 394; (1922): 414–15; Eileen Goltz, “Espanola: The History of a Pulp and Paper Town,” *LUR* 6 (Jun 1974): 76–77; Mark Kuhlberg, *In the Power of the Government: The Rise and Fall of Newsprint in Ontario, 1894–1932* (Toronto, University of Toronto Press, 2015), 105–117.
71. J.P.G. de Lestard, “A History of Sudbury Forest District,” Ontario Department of Lands and Forests, *District History Series*, no. 21, 1967; Thomas Thorpe, “A Review of Logging and Pulp Operations in Sudbury District During the Years 1901–1950,” manuscript, Department of Lands and Forests, n.d; Ontario, *Annual Report of the Department of Labour*, 1920, 34; RONC, 1; Canada, Dominion Bureau of Statistics, *Census of Industries*, 1917 Part IV Lumber, Lath, Shingles Etc. Section 1, *SP* 1919, no. 17c, 40–42; *ibid.*, 1919, *SP* 1921, no. 17a, 33–35. Demand for roast yard wood was so great that in just three years Mond Nickel removed even tree stumps from property around its Coniston works. Keith Winterhalder, “Environmental Degradation and Rehabilitation in the Sudbury Area,” *LUR* 16 (Feb 1984): 18.
72. Robert Choquette, *La foi: gardienne de la langue en Ontario, 1900–1950* (Montreal, Éditions Bellarmin, 1987), 56–61; Alphonse Raymond, “Paroisse Sainte-Anne de Sudbury—1883–1953,” *Documents historique* 26 (1953): 19–20; J.B. Waddell, “Histoire de la paroisse St. Anne,” manuscript, 1933,

- Jesuit Archives, Université de Sudbury, (ASJCF), file B-3-8, p, 161; Gail Cuthbert-Brandt, "The Development of French-Canadian Social Institutions in Sudbury, 1833–1920," *LUR* 11 (Feb 1979), 12–13; Lorenzo Deschamps, "Le development de l'Église Catholique a Sudbury," *Rapport de La Societe Canadienne d'histoire de l'Église Catholique* (1960): 29; Frank Peake and Robert Horne, *The Religious Tradition in Sudbury 1883–1983* (Sudbury, Journal Printing, 1983), 16, 86; *Sudbury Star*, 26 Sep 1917. Fr. Descoteaux's comments: Charles McCrea, Sudbury, to Descoteaux, 25 Apr 1917, "Les lettres des/aux cures de Ste.-Anne," ASJCF, file c-5-3.
73. Robert Choquette, *Language and Religion: A History of English-French Conflict in Ontario* (Ottawa, University of Ottawa Press, 1975), 223. History of Roman Catholic activity based on local and parish histories, newspaper reports, general studies like Deschamps, 23–34, and Lorenzo Cadieux, "Les fondations du diocese du Sault-Ste.-Marie," *Documents historique* 6 (1944). On Capreol: *Sudbury Star*, 21 May 1921.
 74. *Sudbury Star*, 3 Sep 1919. Cochrane's views paralleled those of the Methodist General Conference of 1918: *CAR* (1918): 603.
 75. Peake and Horne, 86–87; *CAR* (1917): 46; *Sudbury Star*, 12 Sep 1914, 11 Apr 1917, 19 Sep 1917.
 76. Presbyterian Church in Canada, "Report on Home Missions," *Acts and Proceedings of the General Assembly of the Presbyterian Church in Canada (General Assembly)*, 1914, 17; 1915, 20; 1918, 6; 1923, 25; idem, "Sudbury Presbytery Records" ("Minutes"), 3 Mar 1915. On the vote: *Sudbury Star*, 8 Jan 1916.
 77. Presbyterian Church, *General Assembly*, 1916, 34–35; 1919, 22–23. Sellwood, O'Donnell and likely other centres had non-denominational "Union" churches: *Sudbury Star*, 23 Mar 1932; *INCO Triangle* 34 (Oct 1974): n.p.
 78. Based upon local sources and Presbyterian Church in Canada, *General Assembly*, 1914–23; Methodist Church of Canada, *Proceedings of the Toronto Annual Conference of the Methodist Church*, 1914–23; Church of England, *Journal of Proceedings of the Synod of the Diocese of Algoma*, 1914–23; Baptist Convention of Ontario and Quebec, *The Baptist Year Book*, 1914–22. Church minutes and histories add detail, as do Church-sponsored and local newspapers. *Canadian Baptist* ignores the area until 1920. On the Salvation Army: *Sudbury Star*, 11 Jan 1919.
 79. Statistics Church reports. Baptist history: *Canadian Baptist*. On the Salvation Army: *Sudbury Star*, 10 Dec 1921 and 28 Jun 1922. Peake and Horne, is the best general survey. There are histories of the individual churches.
 80. Methodist Church of Canada, *Proceedings*, 1915–25 has annual statistics. Also: idem, *Annual Report Women's Missionary Society*, 1916–17, cxlvi; 1917–18, clii; 1920–21, clxiii; 1923–24 cliv; *Missionary Outlook* has regular reports. On Catholic work: Maurizio A. Visentin, "The Italians of Sudbury," *Polyphony* 5 (1, 1983): 32; *Sudbury Star*, 20 Sep 1916, 8 Sep 1920, 21 Jan 1922, and 10 Oct 1923.

81. Zembrzycki, "Memory, Identity, and the Challenge of Community," is the key work; Mary Stefura, "The Process of Identity: A Historical Look at Ukrainians in the Sudbury Area Community," *LUR*, 15 (Nov 1982): 59; *Sudbury Star*, 1 Nov 1924.
82. Harry Young, "Chinese in Sudbury," *Polyphony* 5 (1, 1983): 108. Some 61 Chinese immigrants were students.
83. The Copper Cliff church closed in Sep 1921. Quote: R.J. Wargelin, "Finnish Lutherans in Canada," in *The Faith of the Finns: Historical Perspectives on the Finnish Lutheran Church in America*. ed. Ralph Jalkanen. Ann Arbor, 1972, 134. For details: Arvi Heinonen, "The Finns in Europe and Canada," *Presbyterian Record* 40 (Sep 1915): 407; Presbyterian Church in Canada, *Sudbury Presbytery Records, Minutes*, 27 Aug 1913, 10 Jul 1914, 7 Sep 1921, 4 Jun 1923. Data in idem, General Assembly, 1914–23; some records in United Church Archives, Toronto. Lutheran Pastor and Congregation historian Lauri T. Pikkusaari condemned Heinonen as "an adventurer and impostor... a totally unprincipled fellow." Pikkusaari, Copper Cliff, to M.I.G. Allen, London (?), 22 Sep 1954. Finnish Canadian Historical Society Collection, Public Archives of Ontario, Drawer 60, Box 17, item 14.
84. Pat Koski and Bill Mäkinen, eds., *Wuoristo-St. Timothy's Lutheran Church: 100 Years* (Sudbury, Central Printers, 1997); detailed congregation histories are in Finnish. On the Missouri Synod: Frank Malinsky, *Grace and Blessing: A History of the Ontario District of the Lutheran Church* (Elmira, Ontario District of the Lutheran Church, 1954), 89.
85. Convictions for 1914–22. See: Ontario, *Report of the Board of License Commissioners for Ontario on the Operation of the Ontario Temperance Act 1915–23*; idem, *Annual Report of the Inspector of Prisons and Public Charities upon the Prisons and Reformatories of the Province, 1914–23*. On temperance votes: Horne and Peake, 84. On prohibition: Horne and Peake, 81–82; Elaine J. Cataford, "Prohibition and Canadian Cities" paper, Laurentian University, 1974.
86. Craig Brown, *Robert Laird Borden: A Biography* (Toronto, Macmillan, 1980), 2:2; Charles Dorion, *The First 75 Years: A Headline History of Sudbury, Canada* (Ilfracombe, Burleigh Press, 1959), 122.
87. The Orange Order and Knights of Columbus launched near simultaneous building campaigns: *Ontario Gazette* 51 (28 Sep 1918): 2057–58; 51 (2 Nov 1918): 2223–24. Annual lodge reports give memberships and activity reports. On the WCTU: Cataford, 12–19.
88. Jean Claude St.-Amant, Robert Dupuis, and Yves Tassé, "Les élections fédérales dans la ville de Sudbury (1887–1974)," *Documents historique* 67 (1977): 16.
89. Quotes: *Toronto Star*, 28 Sep 1927 and on Mageau, *CAR* (1916): 530. Also: Brandt, 16; Choquette, *La Foi*, 118; J.-Raoul Hurtubise, "Les écoles bilingues de Sudbury," *Documents historique* 28 (1954): 41; Guy Courteau, "Le docteur J.-Raoul Hurtubise M.D.-M.D.: 40 ans de vie française à Sudbury,"

- Documents historique* 58–60 (1971): 65–79; Lionel Séguin, *Historique de la paroisse de Chelmsford Ontario* (Sault Ste. Marie, Roman Catholic Diocese of Algoma, 1948), 110; *Sudbury Mining News*, 31 Dec 1915, clipping in ASJCF file D-6-8; *Sudbury Star*, 31 Mar 1917.
90. Brandt, 17; Gerald Blais, “Le Collège du Sacre-Coeur, Sudbury, Ontario” (M.A. diss., University of Ottawa, 1968); Peake and Horne, 105; *Sudbury Star*, 19 Sep 1919; Louise Chenier, “La Fédération des Femmes canadiennes-françaises de Sudbury,” *Documents historique* 9 (1945): 18–19.
 91. Matt Bray, “1910–1920,” 90.
 92. Complaints about Chinese residents predated the war: *Sudbury Journal*, 7 Nov 1912. On anti-Chinese sentiment: Graeme Mount, *The Sudbury Region: An Illustrated History* (Burlington, Windsor Publications, 1986), 25–27; On the Chinese National League: *Sudbury Star*, 27 Jul 1918 and 16 Jun 1920.
 93. Chief of Police Clark reported 378 aliens registered at Copper Cliff, 180 at Creighton, and 80 at Crean Hill. *Sudbury Star*, 12 Oct 1915; *CMJ* 36 (1 Jul 1915): 391. On Ukrainians: Zembrzycki, “Memory, Identity, and the Challenge of Community,” 91, 100–107.
 94. Bray, “1910–1920,” 86–90. One wonders how “open” it had been prior to the war. As for the war effort, quite a large number of immigrants joined the Expeditionary forces.
 95. *Sudbury Star*, 2 Mar 1918.
 96. Krats, “Sudburyn Suomalaiset,” 48–49, 159–63; Stefura, 59; *Vapaus*, 7 Mar 1922. On pragmatic membership: Peter Krats, “‘Limited Loyalties’: The Sudbury, Canada Finns and Their Institutions, 1887–1935,” in *Finns in North America: Proceedings of Finn Forum III.*, eds. Michael Karni et. al. (Turku, Migration Institute, 1988): 188–200.
 97. Mike Solski and J. Smaller, *Mine Mill*, 66–69; David Bercuson, *Fools and Wise Men: The Rise and Fall of the One Big Union* (Toronto, McGraw-Hill Ryerson, 1978); Canada, *Labour Organization*, 1918–21.
 98. Canada, *Labour Organization in Canada* (1914–1922). Northern Ontario unionists sought TLC aid to no avail. Trades and Labour Congress of Canada, *Report of the Proceedings of the Annual Convention (Report)*, 1918, 136, 161.
 99. Canada, *Labour Organization in Canada* (1919): 154.
 100. *Sudbury Star*, 31 Dec 1919, 7 Jan 1920, 28 Feb 1920. The Labour Council succumbed in 1922.
 101. On Burwash: Ontario, *Inspector of Prisons*; 1917. Also: anon., “Burwash: A History 1911–1981,” manuscript, Sudbury Public Library Regional Collection [SPL], 1982. On schools: Sheila Prusila, et al., “Vintage Schools: A Preliminary Survey of Schools Operating in the Sudbury Basin 1880–1930,” manuscript, SPL, 1981; Ontario, *Schools and Teachers of the Province of Ontario*, 1914–22.
 102. Ontario, *Telephone Systems*, 1015–1923 has data.

103. John Knowles, et al., "The Sudbury Streetcars: The Sudbury-Copper Cliff Suburban Electric Railway Company," *Nickel Belt Rails* 3 (1983): 7–8, 10; H.W. Middlemist, "Engineer's Report," Ontario, *Railway and Municipal Board*, 1915, 218–19. Statistics: "Annual Report of Railway Companies," in *ibid.*; and Canada, "Railway Statistics," *Annual Report of the Department of Railways and Canals*. Local newspapers frequently refer to street railway progress.
104. Ontario, *Railway and Municipal Board*, 1918, 81–82; C.R. Judd and J.A. Farquharson, "The History of the Town of Capreol," Tweedsmuir history, 1947 (?), n.p. [SPL]; Colin Clay, "Capreol and Surrounding Area," *Historic Sudbury* 1 (1979): 42–61; Ontario, Bureau of Municipal Affairs, *Report re Housing*, 1919, 8, 12; 1922, 8; Canada, *Census of Canada*, 1921, vol. 1, Tables 16, 27, 38, pp 307, 482–83, 700–701; and Ontario, *Municipal Bulletin*, annually. On Norman: Sudbury District Registry office, Subdivision Plans, microfilm, Laurentian University Library, plan M7OA.
105. Histories of villages compiled from scattered newspaper references, local histories and business directories.
106. Canada, *Census of Canada*, 1921, vol.1, Tables 16, 27, 38; Ontario, *Municipal Bulletin*, yearly; Dun, *Reference Book*, Jan 1921, 519; Vaillancourt, *passim*; Séguin, *passim*; Tina Koivu, "A History of Chelmsford, Ontario," paper, Laurentian University, 1974; T. Castonguay, "Chelmsford," *Documents historique* 4 (1944): 12–29.
107. Local newspapers have numerous details; see also *OBM* and the *RONC*. An early but still useful general work is Gilbert Stelter, "Community Development in Toronto's Commercial Empire: The Industrial Towns of the Nickel Belt, 1833–1931," *LUR* 6 (Jun 1974): 10–11, 14, 41–42.
108. Tumbling terraces quote from a reminiscence in *Northern Miner*, 6 Mar 1930. Creighton, seen as a "great" mine, drew considerable notice: along with local newspapers see *Financial Post*, 4 Sep 1915; *Northern Miner*, 12 Aug 1916; *CMJ*, 36 (1 Dec 1915): 736; 37 (15 Aug 1916): 391; *Vapaus* (5 May 1921); Dun, *Reference Book*, Jan 1921, 534; Presbyterian church, *General Assembly*, (1914): 20; (1916): 36.
109. Ontario, *Municipal Bulletin*. Also: Froid Mine, "Town Council Minutes," 1914–23 [SPL]. Town status was retained despite the closure. *Sudbury Star*, 21 Jan 1914; *Saturday Night*, 4 Oct 1930; *RONC*, 217; Noel Beach, "Nickel Capital: Sudbury and the Nickel Industry 1905–1925," *LUR* 6 (Jul 1974), 62. On Crean Hill, home to 137 buildings: *RONC*, 75; *INCO Triangle* 10 (Oct 1950): 9; *Bradstreet's Commercial Ratings in Dominion of Canada*, Jul 1918, 87; *Sudbury Star*, 26 May 1917, 20 Nov 1918; *Northern Miner*, 6 Mar 1930.
110. Bill Mäkinen, "The Mond Nickel Company and the Communities of Victoria Mines and Mond," in *Industrial Communities of the Sudbury Basin* (Sudbury, Sudbury District Historical Society, 1986), 32–41; *Sudbury Star*, 22 Sep 1920; *Vapaus*, 23 Apr 1921, 5 May 1921.

111. Mond Nickel Co., 81; Dun, *Reference Book*, Jan 1917, 819; *ibid.*, Jan 1921, 565, 625, 882; *OBM* (1917): 85; *Vapaus*, 28 May 1921; *Northern Miner*, 6 Mar 1930; *RONC*, 81; Stelter, 11, 40; Robert Trott, *The Story of Onaping Falls* (Sudbury, Acme Printers, 1982), 30–42.
112. Clay, 44–46; Beach, 62; Dun, *Reference Book*, Jan 1921, 744; *RONC*, 89.
113. Coniston Historical Group, *Coniston Story* (Sudbury, Journal Printing, 1983), 3–5, 9–10, 26, 38, 82; Mike Solski, “Coniston,” *Industrial Communities* 46–48; Mond Nickel Co., 24; *RONC*, 81; Dun, *Reference Book*, Jan 1921, 529.
114. INCO Staff, 64; *INCO Triangle* 34 (Oct 1974): n-p.; *Sudbury Star*, 6 Jan 1916, 8 Jan 1916, 5 Feb 1916, 12 Apr 1916, 20 Nov 1918.
115. On secrecy: *Northern Miner*, 22 Jan 1916. See Pamela A. Follett’s vivid descriptions of Copper Cliff in: Methodist Church of Canada, *Annual Report of the Women’s Missionary Society* (1917-18): clii; (1919-20): cxliv; (1922-23): cxlix. Eileen Goltz, “Genesis and Growth of the Company Town: Copper Cliff, 1886–1920” (M.A. diss., Laurentian University, 1983) has details. See also Cheryl Daminato et al., *A Bit of the Cliff: A Brief History of the Town of Copper Cliff Ontario 1901–1972* (Sudbury, Copper Cliff Museum, 1982); Ontario, *Municipal Bulletin*, 1915–22; *RONC*, 7, 75; Stelter, 14, 41–44; Dun, *Reference Book*, Jan 1921, 530; *Vernon’s Sudbury and Copper Cliff Directory*, 1914–18.
116. Goltz, “Genesis,” and Daminato et al. offer detail. Also: Ontario, *Municipal Bulletin*, 1919–22; *Financial Post*, 9 Sep 1921. Demographics: Canada, *Census of Canada*, 1911, vol.2, Tables II, VII, pp 66–57, 232–33; *Census of Canada*, 1921, vol., 1, Tables 16, 27, 38. INCO’s evictions cut the “foreign” population from 53% to 39%.
117. The *Journal, Star*, and *Mining News* were joined by the daily Finnish-language *Vapaus*, which first appeared on 6 Nov 1917 and offered both local and national news. A. McKim, *Canadian Newspaper Directory* (1918): 79, 319; *Sudbury Star*, 10 Nov 1917.
118. Beach, “Nickel Capital,” 66–69.
119. Quote: *Financial Post*, 10 Aug 1918. For an overview of civic progress: *Sudbury Star*, 17 Dec 1921; *Canadian Baptist*, 15 Feb 1923. Edwin Higgins, *Twelve O’Clock and All’s Well: A Pictorial History of Law Enforcement in the Sudbury Area* (Sudbury, Sudbury Regional Police, 1978), 21–28.
120. Liberal Hartley Dewart claimed that INCO and senior Conservative Frank Cochrane—co-owner of Wahnapiatae Power—conspired to prevent the installation of HEPCO service at Sudbury. *Toronto World*, 19 Aug 1916.
121. Quote: *Heaton’s Annual: The Commercial Handbook of Canada* (1922): 480. On population: Canada, *Census of Canada*, 1911, vol.1, Table I, p 84 and *ibid.*, 1921, vol. 1, Table 16, p 307. Also: Judith Topham, “Sudbury: Growth and Development, 1920–1940” (B.A. diss., Laurentian University, 1981), 15–16. Urban spread outlined in Antonio Presenza, “Sudbury: Pattern of Urban Growth 1883–1941,” (B.A. diss., Laurentian University, 1971).

122. Canada, *Census of Canada, 1921*, vol.1, Table 27, 482–63, vol. 2, Beach, 61–63, 71; Claire Pilon, *Le moulin a fleur* (Ottawa, no publisher given, 1963), 7; Gilbert Stelter, “Use of Quantifiable Sources in Canadian Urban History,” *Urban History Review* 1 (Feb 1972): 16–17.
123. *Sudbury Star*, 11 Nov 1918.