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Olivia M. Habana

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Gold Mining in Benguet: 1900-1941

Olivia M. Habana

The mining and trade of gold were among the most crucial economic activities of the Ibaloy and Kankanay Igorots of Benguet province. The Igorots had developed mining and processing methods that enabled them to produce ore which they traded for salt, livestock, Chinese pottery, cloth, blankets and cattle from the lowland areas. Despite numerous Spanish attempts to conquer the gold mines, they remained intact, protected by the inhospitable terrain and the vigorous defense of the Igorots.

One consequence of this was the development of a native elite class whose wealth was based on ownership and control of the gold mines. In time, these baknang concentrated on management of their mines and trade, leaving the hard work to poorer workers and even slaves. The relative ease of obtaining the ore and the lucrative trade it engendered enabled the baknang to accumulate herds of cattle and large plots of riceland which were tangible measures of wealth in Igorot society. The baknang were the backbone of Igorot society, monopolizing political, economic, social and even spiritual roles. This was soon to change with the arrival of the American expeditionary forces.

The Coming of the Americans

In January 1900, the first American soldiers set foot in Benguet. These were members of Company 1, 48th Infantry, a "colored" company commanded by Captain John Buck. Oral tradition preserves the awe felt by the Kapangan Igorots at the sight of the *nigdo* soldiers. People remember being tossed coins and candy by huge black men whose knee height was estimated to be equal to that of a ten-year old

Igorot.child (Bagamaspad and Hamada-Pawid 1985, 188). However, little fighting was done with these men as they were mostly engaged in chasing the remnants of the revolutionary army through the Cordillera.

As military hostilities drew to a close in May 1900, Juan Oraa Cariño, insurgent governor of the district of Benguet, was wounded and captured. He reconciled with his captors, settled in Tublay and eventually became the first Igorot representative of the mountain province to the legislature in Manila, a position which he filled from 1913 until his death in 1926 (Kamora 1951). In the latter part of 1900, Magastino Laruan was captured with a barrelful of insurgent documents, bringing an end to the revolutionary activities in Benguet.

By February 1900, General Order No. 43 set up the military government in Benguet but covered essentially only the Ibaloy areas. The northern areas of Mankayan formed part of the province of Lepanto-Bontoc. Later that same year, the first American civil government in the country was established in Benguet under Philippine Commission Acts No. 48 and 49, dated 22 and 23 November 1900. This set the stage for another American invasion of Benguet, this time by the tough talking ex-soldiers turned miners who had heard of the Igorot gold and sought in Benguet a new Klondike.

American Prospectors, 1900-1907

In 1899, the 33rd Infantry of the US Army, under Major March chased "that wily old fox" Aguinaldo, through the Cordillera mountains but failed to catch up with him. Among the young privates in the outfit was Samuel Kane (1933, 166), who heard of the abundant mountain gold and decided to return for it. After being dropped from the muster lists, he and three companions returned to Benguet to do some unsystematic and fanciful prospecting; combing the mountains for weeks but failing "to find enough gold to fill a hollow tooth." Their experiences were not unique since scores of other discharged American soldiers flocked to the gold-rich Benguet mountains.

"Prospecting, which requires almost no capital but usually considerable physical exertion, was one of the first occupations into which Americans drifted" (Gleeck 1975, 52). American prospectors fell back on their experiences or those of their fathers in the Klondike and California gold rushes. These were fed further by reports of the early commissions such as those undertaken in 1901 by Philippine Commis-

sioner Dean Conant Worcester ("Bosted" to the Igorots), and David P. Barrows, future head of the Bureau of Non-Christian Tribes. Barrows described the gold workings at Itogon in some detail and expressed surprise that such fine gold could be obtained with such primitive methods. No doubt, accounts such as these whetted individual and official American appetites for gold.

For the early prospectors, a basic difficulty was getting to Benguet. Before the Baguio road was built, Benguet could be reached after an almost 24-hour sea trip from Manila to San Fernando, La Union plus a two to three-day trek on horseback over the Spanish-made Naguilian trail. An alternative was to take, as the Barrows expedition did, the railway from Manila to Dagupan, and then to hazard a three-day horseback trek through the steep trails of what would later become the Kennon Road.

The early prospectors were tough men and a good number of them did make the trip to Benguet and even beyond. However, they were not trained geologists or miners but often semi-literate soldiers with minimal or second-hand knowledge on prospecting. Hoping to strike it rich, they fell back on their experiences in or hearsay about the Klondike and California gold rushes. This entailed back-breaking work of trekking through mountains, panning cold streams for hours, and digging tunnels through rock. They soon found an easier way:

Not by looking for outcrops of gold but by befriending the Igorots, and taking up residence with them in communities with known gold deposits, indicated by the fact that the natives wore gold ornaments—necklaces, earrings, rings and other objects of adornment. The Igorots eventually led the Americans to the lode formations where native mine workings were found. (Lopez 1992, 51)

An even quicker way was to buy or seize gold objects and ornaments from the Igorots. Maud Huntley Jenks, who lived with her husband, anthropologist Albert E. Jenks in the Cordillera area from 1902–1904, writes, "I have heard that one American here has already gathered up many thousands of dollars worth of gold artifacts and melted them down into bullion" (Richards 1950, 46). The Igorot gold industry was once again the objective of foreign fortune hunters.

The friendship between Igorots and Americans, however, was not one-sided. The Benguet Igorots, long known throughout the Cordillera as the most submissive and unwarlike of tribes, saw great advantages in having American ex-soldiers among them: their firepower. The

baknang of Benguet offered the American prospectors enormous rewards in Cordillera terms for protection against enemies or other less agreeable American prospectors. The headmen of the more warlike villages in the interior even used them for head raids. They had seen the power of the US repeating rifles and knew the value of having these men as allies, whether to scare off potential attackers or as offensive weapons in village wars. In effect, the Cordillerans were able to manipulate the Americans to act as their mercenaries by offering them ricefields and cattle or dangling the prospect of a gold mine before their eyes. Samuel Kane and his companions, as well as numerous other prospectors, soon found themselves doing less and less digging and more and more fighting.

The prospectors, miners and geologists soon figured out that in order to concentrate on mining, it was best to steer clear of village conflicts. An effective way of doing this was not to bring any firearms. Stanley, a Division of Mines engineer in Benguet, smugly admonished new men in 1907:

You see, boys, you don't know these hill hombres like I do. You think I take some awful chances among these half-wild people but I'm as safe as a nun in a convent. . . . I don't have to carry a gun. In fact, a gun would only be a temptation to them. . . . Sometimes, I don't know whether they look at me as just a poor crazy man or think I'm some sort of magician. Anyway what does it matter what they think? I'm not molested; in fact, they see to it that no one else bothers me. Don't you fellows ever make the mistake of packing a gun around with you out in the mountains. It'll only get you in hot water. (Smith 1990, 7–37)

Aside from helping villages in war, the prospectors had another way of gaining access to the mines. David P. Barrows (1873–1954, 64) commented rather wryly on this: "Each one promptly secured a wife from the Igorot natives. The ceremony was simple, involving only the consent of the woman and feast called a cañao." In this way, an early prospector named George Icard, married Kading, a woman recognized as the best gold panner in the area (Laubenthal 1994, 72–96). This was even more effective if the woman was from a mine-owning baknang family, in which case, the American became entitled to a portion of the gold. Arrangements such as these were more widespread in Benguet than anywhere else in the Cordillera. Foremost reason for this was, of course, the presence of gold which attracted scores of ex-soldiers, prospectors, miners, and local merchants. Since these "unofficial Ameri-

cans" were not subject to transfers at the whim of the colonial government, they were more likely to settle permanently in one spot (Jenista 1987, 227). Proof of this is the number of Benguet families who carry American names such as Hora, Haight, Dugan, Icard, Muller and Murphy.

The early American prospectors may have been absorbed quite readily into the Igorot culture, often unwittingly being subject to the powerful baknang families without their own knowledge. They lived in close contact with the Igorots and soon became a part of the society. Some of them gave up prospecting to start small businesses catering to the needs of their fellow miners, especially around the Baguio area. While some early miners were content to mine gold the Igorot way, others attempted to legitimize their possession of the mines. They sought to hammer out claim agreements based on American customs alien to the Igorots. Barrows (64–65) observed the first meeting called by prospectors with the Igorots regarding mine ownership:

The presiding spirit . . . was an extraordinary Irishman, Pat Galvin. His address, "To you poor miserable Igorots," who squatted around without understanding a word, is something that ought to have been recorded. Northern Luzon rang with its repetition for some time.

These men were one step ahead of the American colonial administration. The authorities noted that the gold rich mountains were quickly being filled up with settlers and miners and that, more alarmingly, these miners were beginning to usurp the military and civil jurisdiction of the colonial government in these parts.

Establishment of American Civil Government

To preempt these sectors, the colonial government rushed the organization of the civil government. On 19 December 1900, the Philippine Commission named as Provincial governor and Provincial Secretary respectively, H. Phelps Whitmarsh, an Englishman who was in a gold and coffee trading partnership with a merchant from Pangasinan; and Otto Scheerer, a long-time German resident of Baguio. The provincial government of Benguet was therefore to be headed by these two non-Igorots with the governor as executive head, and the secretary as interpreter and record-keeper.

Instead of individual villages, the province was divided into townships, not necessarily coinciding with village boundaries. The council of baknang elders was replaced by a *presidente* and a board. A new addition was the office of *escribiente*, or municipal secretary-treasurer, an appointive lowlander who essentially took over major administrative and clerical duties. This form of government was also adapted in the copper-rich area of Lepanto-Bontoc. Hastily drawn and without any knowledge and accommodation of traditional politics and society, it later proved unsuccessful. The reason for the haste was to safeguard American interests in the potential mineral wealth of the two regions (Fry 1983, 39). The government soon realized its mistake and resolved to study further before imposing this form of government on the other Cordillera areas. It was enough that, for the moment, American authority was firmly planted on the mineral-rich areas.

In October 1901, the Philippine Commission established the Bureau of Non-Christian Tribes under David P. Barrows to study the ethnology of the mountain tribes as well as the southern Muslims (15). In 1903, the Philippine Commission resolved to make Baguio the official summer capital of the Philippines. First order of the day was to build a better road to shorten travel time to Benguet and make it possible to move the supplies and equipment needed to fully exploit the mining industry. Despite sketchy and amateurish initial plans and surveys, the project went underway under Colonel Lyman W.V. Kennon, who rammed the road through the mountains at a scandalous expense in time, manpower and scarce Philippine funds. 1 By the time the road had opened in January 1905, it had cost USD 2,000,000 and the loss of hundreds of men through disease and accidents. Furthermore, it continued to require constant expensive repairs because the hastily laid plans did not foresee the dangers of building a road along the Bued River which periodically overran its banks.

Again, the haste was due to the need to safeguard Benguet's mineral wealth for the Americans. With the basic infrastructure laid, the American administration could now answer the clamor of individuals and commercial sectors for laws that would safeguard their interests in the mines, as well as the other exploitable resources of the country.

Land and Mineral Laws

Philippine mining laws changed drastically from the Regalian doctrine of the Spanish occupation to the freehold system of the United States. This was reflective of the naïve American belief that the economic development of her new colony could be achieved "by simply introducing US methods of free enterprise and business, enacting legislation thought to be conducive to such development and instituting certain practices such as homesteads and Torrens titles" (Salamanca 1968, 131). Laws regarding mineral use and ownership were put in place by the Americans to suit their economic interests. The period from 1900 to 1907 may be seen as a time of reorganization when the basic foundations for the future of Philippine mining were laid. General Order No. 31 dated 10 March 1900 created the Mining Bureau to oversee all mining activities, a new mining code was passed and mineral production under modern mining conditions was initiated (Wirkus 1974). Soon after, the administration of mining grants and claims instituted prior to 11 April 1899 was transferred from the Mining Bureau to the Bureau of Public Lands. This was an attempt to reconcile the conflicting Spanish and American systems.

Captain Charles Burritt, a lawyer from Wyoming, was appointed as first director of the Mining Bureau in 1901, and charged with the difficult task of making sense of the conflicting mining claims of American prospectors. All claims under Spanish law were canceled and any petitions would be decided individually by appealing to the military government. As such, re-registration of titles in the *Registro de Minas* carried this important notation from the Chief of the Mining Bureau:

The recording of this title shall not be construed in any way to prejudice the rights to which it may subsequently develop that either the US or a third party may have in the within property but is intended solely for its present protection and conservation for the information of prospectors until such a time as it and similar claims shall be finally adjudicated by the body or tribunal charged with the investigation and determination of titles to mining claims and property in the Philippines. (Registro de Minas 1901)

Under the freehold system, a mining claim entitled one to acquire ownership of the mine, documented by a Torrens title. Until such a time that this was obtained from the Register of Deeds, a prospector who staked a valid claim only needed to perform 200 pesos (USD100) of assessment work annually to maintain his property rights (Tapang 1985, 30). The early American prospectors needed only to keep their finds away from other Americans and to conduct minimal assaying work in order to maintain their claims.

It was thus with great expectancy that they greeted the passage of the Philippine Bill of 1902, or the Organic Act, marking a legal trend

which was protective of American interests. The importance of mining in the Philippines may be gleaned from the fact that the Mining Law was incorporated into the basic governing law of the land. Moreover, out of eighty-eight sections, forty-two pertained to the administration and disposition of mineral lands (Andres 1950a).

The new law provided that all mineral deposits in public lands would be free and open to exploration, occupation and purchase (Lopez 1992, 61). The claim owner was entitled to all the minerals lying within his claim area but could only make one claim of a specific size. Staking of a claim was easy: one merely had to mark the area with two posts. This resulted in a frenzy of staking out, claim-jumping and paper chasing by the early prospectors. Claims were staked on non-mineralized areas and there were often overlapping stakes, with several prospectors claiming the same areas. George M. Icard, ex-soldier and prospector, recalls:

We told Mr. Whitmarsh about our objective, the copper mines at Mancayan and Suyoc, and he joined our party and got us a detachment of soldiers . . . as there were many roving bands of the Filipino army called *insurrectos*. When we reached our objective . . . we found that a party of ex-soldiers had got there before us. . . . We all staked our claims in that district and were soon joined by another party whose chief is now General Charles Nathorst. Nathorst made the first big gold discovery in Suyoc-Mancayan. (Morehouse 1939, 18)

By 1906, there were 544 claims recorded in the Baguio gold district, with 105 located in that year alone (*Annual Report* 1906, 197–201). By 1908, 331 new claims were recorded. What the claimants and the civil government conveniently overlooked was the fact that these mines, pastures, and streams were already owned and operated by the Igorots.

New Ownership and Changing Roles for Igorots

The whole frenzy of land registration, titling and staking claims was alien to the Igorots who had their own system of land ownership. Kinship ownership over rice fields and individual ownership of mines was common knowledge in the community. This was further "legitimized and notarized" with the holding of feasts during which these were recited as part of folklore in the *bac-diw* chant (Tapang 1985, 14).

Also, the more tangible and individual measure of Igorot wealth was not land but cattle, which enabled the baknang to give feasts and reinforce their status as baknang.

The reluctance of many Igorots to resort to an alien system to assert ownership over traditional lands may be partly explained by the age-old fear of taxation. Also, although the land traditionally belonged to one individual or kinship group, it was used by others. The large estancias usually belonged to a group of kinsmen as common pasture land but held in trust by the baknang head. These also included water holes, home lots, swidden lots and gabi fields, which did not necessarily belong to the baknang. Moreover, it may also have been difficult for the Igorots to understand how an American stranger could usurp a mine worked by a family for generations simply by driving two stakes into the ground.

Land being parceled and owned individually was alien to the Igorots. Their concept of land ownership involved a sharing system which guaranteed mutual responsibility for land, produce and animals between the baknang and his lesser kin (Bagamaspad and Hamada-Pawid 1985, 212). Thus, only some baknang families such as the Caranteses and Cariños complied with the required land survey and registration while the majority, such as the families of Pucay, Piraso, Camdas, Makay and Molintas, did not. The result of this was that most baknang holdings and a great deal of communal property was declared public land under the American administration. This opened a floodgate of prospectors, both individual and institutional, which set the pace for the land dispossession of the Benguet Igorots.

Certain baknang families were able to take advantage of this ruling and have all their traditional lands (and possibly a few others) registered. Municipal accounts show that certain individuals, such as the presidente, who was usually a baknang or a lesser relative, would lay claim to ricefields, mine sites, pastures lands, and forest concessions which were owned either communal property or owned by lesser baknang. Despite this, no formal protests were made at that time, probably because of the Igorot concept of land ownership. The only two lawsuits regarding land were filed by baknang against the American government and an individual prospector, respectively.

Mateo Cariño and his son Sioco, presidente of Baguio, cooperated with the American regime. Mateo donated land to the American civil government for the site of the current City Hall and Burnham Park. but protested vehemently when they appropriated his prime pasture

land in what is now Camp John Hay. With his resources and influence, Mateo was able to pursue his case all the way to the US Supreme Court. In a landmark decision, the Court upheld the ancestral land rights of Mateo and ordered the government to reimburse him for the for the amount of the land. However, this was a Pyrrhic victory since the larger portion of the settlement (USD50,000) went to lawyers' and litigation fees. On his deathbed, Mateo received the amount of 3,000 pesos in silver coins, which he distributed to his kin as a way of recognizing that the land was communal property of his clan.

The other land dispute involved valuable mines on what would later be the Benguet Mining Company. A case was filed by Jose Fianza, on behalf of his kinship group against J.F. Reavis. Fianza had a trading partner in San Manuel, Pangasinan and was the chief trader of his kin's gold. His family was so wealthy that they had a whole dinner set of pure gold and Fianza himself often gave cañaos to which he invited the whole province. Reavis was a civilian pontoon teamster who had strayed from his outfit in Dagupan and found himself in Benguet. In 1901, he staked claims on the Antamok and Ampasit mines which were ancestral property of the Fianza family. These had been worked by Jose Fianza's grandfather Toctoc and his father, Dominguez. By the time the court had decided in favor of the Fianzas, Reavis had sold his claims to Benguet Consolidated. This entailed a new round of negotiations and, as in the case of Mateo Cariño, Fianza received a jarful of palata (coins) at his deathbed in exchange for his mining properties (Bagamaspad and Hamada-Pawid 1985, 229). Again, these were distributed to his relatives.

In the first two decades of the American occupation of Benguet, Igorot society was changing deeply and drastically. The baknang were displaced politically by the American colonial administrators. As their power over the *abiteg* was eroded, so were their economic positions. This was especially true of those who lost their lands due to failure to register or pay taxes, or were simply displaced by American mining claims. The baknang suffered from a diminution of their ability to feed, clothe and command the labor of the abiteg who, in turn, left to work for cash wages among the Americans. Although radically different from the reciprocal relationship that they had practiced, it filled the gap left by the growing inability of the baknang to mobilize and repay labor. A 1911 decree prohibiting slavery or *baga-en* in the Mountain Province, further deprived the baknang of a work force for the gold mines, their standard source of liquidity.

The introduction of cash wages caused a physical movement of the abiteg towards the mining areas and a psychological movement away from the traditional economic and social systems which tied them to the baknang (Tapang 1985, 34). By 1907, the gold mining industry was taking off and absorbing many abiteg and baga-en Igorots as unskilled labor to build roads, bridges and do the dirty work on the mines, such as mucking out and carrying mining debris. Positions for skilled jobs such as carpenters, miners, millers, and clerks were filled by Tagalogs, Japanese, and Chinese. Igorot society was thus faced with a new element: large numbers of non-Igorot lowlanders and foreigners.

"Every producing gold mine in Benguet, without exception, was built on the ruins of old workings" (*Philippine Mining Yearbook* 1939, 5). With the loss of their more accessible mining holes to Americans, the Igorots retreated into more isolated or abandoned sites. The displaced Ibaloy miners moved out of the Gumatdang, Acupan, and Antamok areas into the lower streams of the Agno, Ambacwag, Apiao, Bokod, Kabayan, most of which were earlier mining sites. The Kankanay miners of Mankayan moved to Tuding and Balicno. The initial "surrender" of these sites to the Americans was probably due to the differing ownership practices of the two cultures. The Igorots may have felt that they could still graze their cattle while the Americans mined gold. However, they were soon brought abruptly to earth. In the 1904 Report to the Philippine Commission, Governor William Pack asserted:

The mining leases issued to US corporations displaced many Igorot families who were now considered squatters. Security measures necessitated the eventual removal of original occupants of the land who otherwise continued to mine traditional lode and placer sites. (De los Reyes)

The baknang lost two sources of wealth and power: the gold mines and the vast herds of cattle. As new developments encroached on more of their land, Sioco Cariño drove his father's cattle from the grassy plain of Kafagway to Tuba. This act was symbolic of a subtle but serious dislocation since the herd of cattle had come to represent the power, prestige and position of the baknang (Bagamaspad and Hamada-Pawid 1985, 213).

As if this were not enough, a new competitor for land came on the scene. The construction of mines and the summer capital in Baguio required huge amounts of timber. Whereas the Igorots simply used to get what they needed from the communal forests, they now had to

compete against the giant companies such as H.C. Heald Lumber which was established in 1908.

By this time, the first commercial mines were beginning their operations. In 1903, pioneer prospectors Nelson Peterson, Henry C. Clyde, and their financier Metcalfe A. Clarke registered the Benguet Consolidated Mining Company relinquishing their mining claims for shares in the company (De Jesus 1978, 15). Putting in a 3-stamp mill and a 60-ton cyanide plant in 1906 resulted in a "nice gold bar every week and there seemed every indication that this would continue indefinitely and increase in volume as the facilities were extended" (Morehouse 1939, 17). Stamp mills were also erected on the Balatoc and Acupan minesites with encouraging results. In the early days, the American gold industry in Benguet was largely in an exploratory and development stage. By 1907, the Governor's Report stated: "We are now entering that era in which we shall no longer speak of mining prospects, but of mines. Hundreds of prospectors have come and gone. We now have miners and mine corporations constructing and operating."

In a period in which gold was the mining industry, the total value of mineral production in the Philippines rose from 200,000 pesos in 1907 (the first year complete statistics were available) to 7 million in 1918, an increase of 3,000 percent (Wirkus 1974, 57). Benguet produced about half of the total output of gold. All in all, these results were enough to encourage further investment and expansion in the Benguet gold district. The impact of the modern machinery and systems by the Americans would change forever the gold mining industry of Benguet.

Growth and Expansion, 1907-1929

The figures below show the monumental growth of gold production in the Philippines, more than half (at times, 80 percent as in 1907) coming from the Benguet gold district.

Production had steadily grown with the introduction of stamp mills and cyanide plants, the improvement of the road system and the entry of professional miners and engineers in the gold industry. Industry output in 1908 was more than double that of 1907 and this may be attributed to the growth of the Benguet district. Whereas only three mills were operating in 1907, there were eighteen by 1908. The dip in production in 1909 was due to the typhoon which battered the province and crippled the Benguet Consolidated mine, completely wiped

Table 1: Gold Productio	n in Benguet: 1907–1911
	

Year	Total Gold Production (pesos)	Gold in Benguet (pesos)	% of Total
1907	187,647	160,699	85.6
1908	434,500	278,474	64.1
1909	495,194	256,400	52.0
1910	308,860	95,960	31.0
1911	379,906	66,400	17.5

Source: Table XII of Wirkus 1974 and Mineral Report 1912.

out the Bua mine and caused flooding and damage to all other operators in the district (Wirkus 1974, 64). The mines were still recovering from the effects of this typhoon when a bigger one struck in 1911. F.B. Morehouse, who was contracted by Benguet Consolidated to lay out a new mill site after the 1909 typhoon, describes this:

July 17th, 1911, another typhoon broke which finished the work of the 1909 storm. 46 inches of water fell in 24 hours. Part of the native barrio with some of the laborers was washed away. The mine tunnels caved in. The road from Baguio to the mine was completely destroyed. Clarke's promised financing was refused. (Morehouse 1938, 64)

This was enough to wipe out the original incorporators and the mine was dormant from 1910 to 1913. The damage was such that the gold production for the Baguio district in 1911 fell to 66,400 pesos, as compared to the figures for the previous years. Things looked bleak for Benguet.

It was around this time that Judge John H. Haussermann came into the picture. He had been the legal adviser of Benguet Consolidated, Inc. (BCI) and was given 5,000 shares of stock as legal fees. In 1913, two-thirds of the company stock belonged to the Bank of the Philippine Islands which assigned Haussermann to run it. He began the difficult battle to rehabilitate the mine, raise funds to install new equipment, build a power station to run the mill and cyanide plants, construct new roads and an aerial tram line. In September 1915, the company resumed operations and in six months time had 27,000 in bullion available (De Jesus 1978, 18). By 1916, BCI was in a position to pay out dividends and was the first Philippine gold mining company to do so. Modern equipment, financing systems and corporate struc-

tures would bring BCI and the Benguet gold mining industry into the future.

But not all mines had the same fate as Benguet or were even run along the same lines. Whereas BCI early on discarded its single-prospector character and became a giant corporate entity, other mines retained this aspect for a longer time. Such was the case of the Camote-Clayton claims of J.F. "Tex" Reavis who had engaged in a legal battle with the Fianzas. He was known never to have visited his mine or mill despite its proximity to his shack.

He turned over his entire mining and milling operations over to the natives as proof of his oft-expressed statement that "If a man can do it, so can a monkey." Unsupervised, his native employees stole as much of the gold as they dared. Still, at clean-up time, Tex would receive his little bar of gold, might even ask, "Is that all?," saddle up his pony and ride into the Pines Hotel Bar, deposit his gold bar... and buy drinks for all and sundry until he was advised that the value of the gold bar was entirely consumed. (O'Dowd 1948)

Obviously, the Igorots found it easier to keep their mines by paying off an unconcerned and often drunken Reavis, rather than lose them outright to a hard-nosed mining company.

The Kelly claims in Itogon were run by a husband and wife team who were well-integrated into the Igorot community. James Kelly, obtained his claims to rich ore-bearing areas when the baknang Pacalso shared these with Kelly's wife, Alice, in gratitude for her teaching schoolchildren (who were mostly his relatives) at Bua (Bagamaspad and Hamada-Pawid 1985, 228). Calvin Horr staked claims and worked a small mine in Balatoc as a one-man operation. This continued until 1920, when Horr was murdered allegedly by his Igorot workers. These small mines were eventually taken over by the large companies such as Benguet Consolidated, Baguio Gold and Itogon-Suyoc.

The continuing growth of the gold industry is reflected in the production figures (see table 2). The mines were indeed a viable business project.

Despite minor dips due to the disruption of chemical and mechanical supplies brought on by World War I in 1917–1918, the mines steadily increased production as more sophisticated methods and equipment were introduced into the country. The decade from 1918 to 1928 was a decade of steady and enormous growth for the gold mining industry. Gold continued to make up more than 50 percent of the total mining industry. Of this, at least 60 percent was sourced from Benguet.

Table 2: Gold Production in the Philippines, 1912–1929

Year	Total Output (grams)	Value (pesos)	Production (pesos)	% of Total
1912	781,950	1,140,424		
1913	1,191,012	1,736,724		
1914	1,650,962	2,349,267	60,000	2.5
1915	1,981,587	2,633,528		
1916	2,265,789	3,011,755	594,963	19.8
1917	1,990,463	2,816,638	521,380	26.2
1918	1,937,941	2,575,970	709,633	36.6
1919	1,970,651	2,619,449		
1920	1,920,753	2,424,606	1,068,892	44.1
1921	1,976,096	2,626,192	1,201,994	45.8
1922	2,205,857	1,890,005	1,740,194	92.7
1923	2,537,162	3,372,654	2,279,530	67.6
1924	2,521,623	3,352,039	2,405,819	71.8
1925	2,928,003	3,891,979	2,959,685	76.0
1926	2,896,697	3,850,376	2,929,053	76.1
1927	2,537,154	3,372,461	2,285,907	67.8
1928	2,864,909	3,808,124	3,235,774	84.9
1929	4,995,961	6,740,781	5,797,649	86.0

Source: Tables XII and XIII of Wirkus 1974; Mineral Reports.

By 1923, a reversal of the downward trend was evident partly due to the increased output of BCI, which was hitting its stride as the major gold producer in the province. 1925 saw a major upswing due to the developments in Benguet. The Balatoc Mining Company was organized, Cal Horr was taken under option by BCI, and development work was started on the Itogon holdings. In the following year, several important events occurred which would have long-term effects on the productivity of the Benguet mines and the position of the province as the premier gold producer in the country. BCI dug a deep drainage tunnel which opened up entirely new and unexpectedly rich ore reserves. Itogon began its operations and Ukab Mining exposed enough ore for a small mill (Wirkus 1974, 117).

BCI set new directions by acquiring the Balatoc company in 1927 under a novel operating agreement instead of outright purchase. It eventually operated five mines in Baguio: Midas Gold Mining, Ukab Mining Co., Acupan Mining Co., Zigzag Mining Co., and Southern Cross Mining Co., Inc.

In 1929 there was an enormous upsurge in production and this was due mainly to increased output from the existing mines. Also, the payment of Itogon's first dividend (1927) only one year after commencing operations, showed that medium or low grade ore could be exploited profitably by efficient management. This period saw additional prospecting and development work, this time undertaken by trained geologists under big companies. These were the new breed of miners: young American professionals who often brought their wives and families along. This was a different scenario from the lone prospector who married into an Igorot family. The gold industry was becoming fully commercialized with none of the integral social content that it had under the Igorots.

Benguet Igorot society was deluged by these changes. The American administration and the highly commercial nature of the mining industry had eroded the position of the baknang. He was no longer essential to oversee the use of the mine and to trade the gold to the lowlands. By this time, the presidente of each town was usually a poorer relative of the baknang but the real power was in the hands of the escribiente, a literate lowlander. He was the real mover of local government since he dealt with the American governor, kept resolutions and minutes, recorded taxes, and received visitors. The need for literacy among US civil servants established a new set of local leaders no longer subject to the traditional requirements of wealth and prestige, such as periodic redistributive feasts. The ability to read and write became a new prerequisite of leadership. Carpio Daoal of Kabayan relates:

Governor Pack assured the people that as soon as they could write and read as well as speak English, he would give them jobs in the government and they would also receive salaries. He would make them teachers, clerks, secretaries, treasurers, etc. (Kamora 1951)

The baknang as well as the former abiteg were quick to recognize the need for an American style education and were receptive to schools. Among the first school boys were members of baknang families: Jose M. Cariño, Lauro Carantes, Mariano Fianza, Mattic, Passiking, Kamora and many others. Baknang families often gave the eldest son a larger inheritance share but did not send him to school. Instead, he had to attend to the business while a younger son was sent to school. This often resulted in clashes between "the tradition-bound heir and his educated brother which inflicted irreparable loss on family solidarity" (Bagamaspad and Hamada-Pawid 1985, 218).

Educated Igorots flocked to the city and the mining and lumber areas since this was where employment could be found. Their seemingly easy lifestyle, away from the harsh labor of the fields or mines, made others aspire for education. Dependence on regular wages further weaned them from the traditional self-contained economy into a consumer-oriented one. As the first three decades of the American era drew to a close, traditional Igorot society was deeply and profoundly shaken by the developments which came with the American search for gold. The strength of this society would be further tested in the 1930s, a time when the whole country went gold mad.

Setting the Stage for 1929-1932

By the 1930s, the gold industry in Benguet had benefited from almost three decades of continuous exploration and development. The corporate and legal structures for exploiting the gold mines were already in place, with most of the mines owned by large companies registered in the Philippine stock market. A sensational gold find in Balatoc in 1929, the continued profitable operations of Itogon, together with increased production from almost all the other Benguet mines pushed gold production to a record high of 4.9 million grams or 6.7 million pesos worth of gold in 1929 (see table 1). The industry was primed for a take-off.

Internal and external events contributed to this. The onset of the Great Depression in the United States devalued the dollar and subsequently resulted in a preference for gold rather than currency. In the Philippines, further impetus to the gold industry was given by the presence of a vast pool of speculative money sourced mainly from sugar and coconut money. The sugar industry had undergone a period of development and expansion in the 1920s, during which time it had incurred considerable debt. With the establishment of the American sugar quota at favorable prices, the sugar barons were able to cash in on their investments and by 1933, the industry had paid off most of its financial obligations. Extremely favorable circumstances, freedom from debt, an assured market for a pre-determined amount of sugar and abnormally high prices for their product, created a vast pool of sugar money with limited outlets for investment. The coconut planters were also enjoying these benefits and they added their hard cash to the purse. In 1935, the sugar planters received an additional windfall when the United States paid them sixteen million dollars as compensation for the loss in quantity of the previous year's crop. This further bloated the speculative funds floating around in the market.

Local Spanish and Chinese capital was also readily available due to the closure of their traditional outlets for investment. The unrest in China in the 1930s and the Spanish Civil War in 1936, both slowed down the repatriation of funds from Manila (De Jesus 1978, 92). In addition to these, funds from other countries also found their way to the Philippine stock market. Jan H. Marsman, A Dutch chemist who had married Nels Peterson's widow, Mary, managed to interest English financiers in his mining projects (*Phil. Mining Yearbook* 1939, 6). There were few viable investment options for these enormous reserves of capital. Predictably, they turned to gold, whose price was stable at a time when the prices of most other commodities were falling. The gold mining industry was now centered in Benguet and recognized as a major profit center with still enough room for expansion and further development.

Gold mining dominated the growth of industry as a whole and provided the foundation upon which the other sectors of the enterprise were built (Wirkus 1974, 221). A mini-boom was evident in the years from 1929 to 1932. The period was characterized by sustained prospecting at a high level and the consolidation of the small-scale mining operations into giant corporate enterprises.

As compared to the highly speculative ventures in new areas such as Abra, Mindoro, and Tayabas, the old mining areas of Benguet showed tangible and proven promise. As such, 1932 saw new capital put into the revival of older areas, still currently being worked by traditional miners. In addition to established producers such as Benguet Consolidated, Balatoc and Itogon, new companies were formed. Among these were Baguio Gold Mining Company, Benguet Exploration, Gold Creek Mining Association, Big Wedge Mining Company and Antamok Goldfields.

Baguio Gold Mining Company was founded on the old Headwaters Mine and developed by Victor Lednicky, Patrick Hoover and Cap Leonard. This property was originally prospected by J.D. Highsmith and George Icard in 1907 and consisted of sixty-one full and fractional claims. Lednicky and company acquired more claims in 1932 and 1933, introduced the technology of cyanidization, and consequently produced thirteen million pesos worth of gold from then until the start of the war (Lopez 1992, 86). This eventually became the basis of Philex Mining Corporation.

In 1932, Andres Soriano obtained English capital from Warner Barnes and Co. and sugar money from the Mapas and Aranetas to help him acquire controlling interest in Antamok Goldfields (De Jesus 1978, 32). The company mined total claims in 231 hectares and its initial daily capacity of 150 tons in 1933 grew to 400 tons in 1934 and 750 tons in 1941. Gold Creek Mining was organized in 1930, Benguet Exploration was incorporated in 1931, Demonstration Gold mines in 1932. Benguet Consolidated took charge of the operations of several small claims including the Kelly mine at Bua and the Cal Horr mine near Balatoc. The gold mining industry in Benguet changed its orientation from small operations to modern corporate enterprises.

Certain organizational improvements were made that would enable the mining industry to grow rapidly in the 1930s. Foremost among these was the practice of maintaining a staff of experts within the industry, who were available to others for a fee. The entry of expert geologists, mine managers, and engineers maximized output of the gold companies and professionalized the industry as a whole. The growth of the industry was also secured by the formation of a powerful mining lobby, the Gold Mining Association (now the Chamber of Mines of the Philippines) which successfully advanced legislation advantageous to the large gold mines. The enormous increase in production from 1933 was triggered by the increase in the price of gold but would not have succeeded without the experience, infrastructure and operational efficiency of the three giants of Philippine gold mining: the Benguet-Balatoc organization, the Marsman companies and the Soriano interests. It was the mechanical and organizational technology developed by these companies that enabled Philippine gold mining to become the country's third biggest industry during the 1930s (Wirkus 1974, 198).

Gold Production and Profits

Throughout the 1930s, gold provided more than 90 percent of total value of mineral output. Of the 250 companies which came into existence from 1902 to 1939, 79 percent were gold mines; of the mining industry's total assets, 188 million pesos or 93 percent were in the gold mining companies; and of total mining labor, 79 percent were employed in the existing gold mines. The extensive growth of the gold mining industry is evident from the following table.

Table 3: Gold	Production:	in the	Philippines,	1929–1941
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Year	Output	Value	Production	% of Total
	(grams)	(pesos)	in Benguet (pesos)	
1929	4,995,961	6,740,781	5,797,649	86.0
1930	5,574,355	7,409,598	6,533,530	88.2
1931	5,661,072	7,524,867	6,981,650	92.8
1932	7,598,341	10,200,167	9,626,295	94.4
1933 (0z.)	290,385	16,087,228	15,576,072	96.8
1934	340,313	23,823,365	22,219,361	93.2
1935	495,701	31,602,266	29,074,084	92.0
1936	599,453	41,961,710	38,604,773	92.0
1937	703,580	49,250,600	45,310,552	92.0
1938	897,088	62,630,204	57,619,784	92.0
1939	1,034,774	74,131,216	68,200,718	92.0
1940	1,095,180	78,308,289	72,043,625	92.0
1941	1,029,942	73,785,026	67,882,223	92.0

Source: Wirkus, Tables XXV and XXIV and Mineral Report of the Philippine Islands, various years. Figures for Benguet's production from 1935–1941 were unavailable. Figures were therefore extrapolated by obtaining the average output for Benguet from 1929–1934. This was pegged at the conservative estimate of 92% rather than the more commonly accepted 95%.

Three gold mining companies had definitely established themselves as profitable producers: Benguet Consolidated, Balatoc and Itogon, all in the province of Benguet. The outstanding achievements of the first two provided dreams of other fabulous strikes while the success of Itogon showed that efficient management could operate a mine of medium to low-grade ore at a profit.

Improvements in mining machinery and methods also increased the profitability of the industry and contributed to the mining boom. Diesel engines were adapted to run mines and improved metallurgical processes were put on line to treat the Philippine hard sulfide ores. Improved roads and transportation facilities, often financed and built by the mining companies themselves, allowed access to interior areas and eased the transport of equipment and men to older mining districts. The confluence of all these factors caused a major gold boom in the period from 1933 to 1937, particularly triggered by the freeing of the gold market. In 1933, Franklin Delano Roosevelt raised the price of

gold from \$20.67 an ounce to \$35.00 an ounce and authorized the American government to buy gold at its market value (De Jesus 1978, 32). In the Philippines, this resulted in a sudden, undreamed-of profitability for the existing gold producers and a mad rush for new, productive gold mines.

The Gold Boom, 1933-1936

Gold production grew dramatically during the 1930s but the real gold boom was not so much one of production as one of speculation. Capital poured into the industry and the Benguet gold mines lived up to their promise, faithfully delivering gold from both established and new mines. Gold production increased steadily, further feeding the gold fever that had gripped the country. A direct result of this was frenzied and even fraudulent claim-staking.

The excitement was partly caused by the speed with which gold claims were snapped up by eager speculators. One of the earliest getrich-quick systems was the selling of units in mining operations (Scholey 1941). A group of men would get together and put up enough money (in units of 100 or 1000 pesos) to develop a claim and start a rudimentary mining operation. As the property showed signs of profitability, a company was formed to raise more capital, with the original members getting a ten to one split on their units. These units could then be freely bought and sold. By the time of the gold boom, the speculative value of such units often increased five or ten times even before any development work had been started on the property. In 1933 alone, 42,737 new claims were recorded. More than 90 percent of these were located for the purpose of selling the individual rights rather than for actual mining operations (*Economic Problems* 1934, 98).

The Manila Stock Exchange served as the primary financial intermediary for the industry, with mining shares making up the bulk of stock market transactions. The Exchange was organized in 1927 to trade in local and foreign securities and started off with six mining stocks out of a total of fifty-two in the beginning of 1933. By August of that same year, there were sixteen mining stocks. These jumped to forty in 1934 and seventy in 1936.

The gold industry was attractive not only to foreign capital and sugar money but also to the ordinary men-on-the-street. If a person had invested 5,000 pesos in Benguet Consolidated Stock in 1912–1913 when it sold for twenty centavos per share, by the end of 1934, he

would have received a dividend totaling one million pesos. In addition, the market value of his stock would be another one million pesos (Malcolm 1936, 265). His initial investment of 5,000 pesos would, in the space of little more than a decade, now be worth two million pesos.

The big investors within the mining circles usually made fortunes such as these. But much more common was the experience of William E. Dosser, Governor of the Mountain Province during the gold boom. Together with two high-ranking US Army Officers on Governor-General Frank Murphy's staff, Dosser was swindled into investing in a non-existent gold mine. Dosser was luckier since he lost only money. The two officers also lost their jobs and reputations. Despite cautionary stories like these, the promise of these fabulous bonanzas created more demand for gold mining stocks.

Production figures for the period from 1933 to 1936 show a spectacular increase in gold production over the previous year's already large outputs. The magnitude of the industry's growth is emphasized in the following table:

Table 4. Increase in Peso Value of Gold Production, 1930-1941

Year	% Increase over Previous Year	
1930	10.0	
1931	1.6	
1932	35.6	
1933	57.7	
1934	48.1	
1935	32.6	
1936	32.8	
1937	17.4	
1938	27.2	
1939	18.4	
1940	5.6	
1941	- 5.8	

It is evident that the main increases in production occurred between the period from 1933 to 1936 although the industry itself experienced overall growth from 1907 and fell only in 1941, with the advent of the Pacific War.

In 1933, gold production came from eight companies in two districts in the Philippines: Masbate and the Mountain Province. Of these, all

but one were located in the Benguet area; as were the only companies producing over one million pesos worth of gold each. These were Balatoc (6.8 million), Benguet Consolidated (6.4 million) and Itogon (1.6 million). The output of these three companies comprised fully 84 percent of total gold production. The rest was made up of the production of other smaller mines in Benguet, and one in Masbate. As a whole, total production of the area was placed at 92 percent of the total.

The following year (1934) showed another sharp increase in the value of gold, despite the fact that output itself increased by only 17 percent. As always, the Baguio mines produced the lion's share of the gold with the big three again producing more than one million pesos each. This time, they were joined by Antamok Goldfields. 1935 was a banner year for the Benguet gold industry because during this time, there were ten producers in the province. Antamok, Balatoc, Benguet Consolidated and Itogon again topped the one million mark. For the first time in Philippine history, a mine produced gold worth more than ten million pesos in one year when Balatoc's production had reached 12.5 million pesos (Dosser 1958, 214).

The Benguet gold mines were also major contributors to government revenue. In 1931, they paid a total of 194,829 pesos in taxes. By 1934, this had hit the one million peso mark and by 1938, the gold mining industry paid 5,778,850 in taxes. On top of this, it was also a chief employer of labor. From the years 1931 to 1940, the number of people employed in the gold mining industry grew tremendously: from 5,620 laborers and 137 officers in 1931, the figure jumped to 42,931 laborers and 1,345 officers in 1940 (*Philippine Mining Yearbook* 1940, 197). Moreover, the average wage in gold mining (in 1939 figures) was 570 pesos, well above the industry average of 534 pesos (199). The gold industry was thus a major player not only in the private sector but in the public sector as well. It was the third largest industry in the economy and the one with the greatest potential for continued growth when the Philippine Commonwealth was inaugurated in 1935.

Commonwealth Legislation, 1936

Just as had been true for the Philippine Bill of 1902, the disposition of the rich mineral lands was a major issue in the framing of the 1935 Constitution of the Commonwealth of the Philippines. Some delegates argued for the continuation of the freehold system while others argued

just as vociferously for the nationalization of mineral resources. The Constitution took effect on 15 November 1935 and, in a striking *volte face*, reinstated the Spanish Regalian doctrine over the American free-hold system. It states, in part:

All agricultural, timber, and mineral lands of the public domain, water, minerals, coal, petroleum and other mineral oils . . . of the Philippines belong to the State, and their disposition, exploitation, development or utilization shall be limited to citizens of the Philippines, or to corporations or associations 60 per centum of the capital of which is owned by such citizens. . . . Natural resources, with the exception of public agricultural land shall not be alienated, and no license, concession or lease for the exploitation, development or utilization of any of the natural resources shall be granted for a period exceeding 25 years, renewable for another 25 years. (Andres 1950b)

The Regalian doctrine was firmly in place again. However, since the Constitution provided that the utilization of mineral lands would be determined by concessions or licenses, it became necessary to come up with a leasing law that would define the principles and procedures of granting concessions on mineral lands. These were the Mining Act and the Commonwealth Act creating the Bureau of Mines which both came into force on 7 November 1936 (Andres 1950). This ushered in an era in which the laws were protective of the national rights of the Philippines rather than those of the individual prospectors and miners. Laws were also geared to guarantee the development and full utilization of mineral lands. However, they did not guarantee ancestral land rights of the Igorots which predated the American era.

Under the leasehold system, the government had the right to grant concessions or leases to individuals or companies under certain specified conditions. These included an ability to develop and exploit the mines and to pay taxes and royalties on production. Prospectors still went about locating claims as they had done under the old law. However, they now had to register their claims with the Bureau of Mines within sixty days. They would then be given a license to prospect and develop the claim. This, however, did not entitle them to extract minerals in commercial quantities until the proper legal requirements were complied with and a mineral lease was acquired. If within four years from registration, the prospector did not apply for a lease or failed to complete the requirements, the claim was considered abandoned.

Certain changes were incorporated under the new laws. A locator could now claim up to three claims on the same vein or placer whereas before he could claim only one. Real estate taxes did not have to be paid since the land still belonged to the State. These were replaced with the royalties and ad valorem tax which had to be paid only upon the commencement of commercial production. Time limits for the application of leases ensured that a prospector would develop his claim or forfeit the right to use it. As such, although the return to the Regalian doctrine discouraged the old breed of individualistic miners, it was better suited to the corporate set-up. It introduced a greater element of stability and non-monopoly to the industry.

However, in testimony to the strength of the mining lobby, the established operations of existing mining companies were not covered by the new law (Wirkus 1974, 215). They simply strengthened their ownership rights legally and continued to expand operations, accounting for the continuing upswing in gold production. Aside from the eight major gold mines in Benguet, there was additional gold output as a by-product of copper mining in Lepanto Consolidated Mining Company in the Kankanay area. In addition, the Twin Rivers plant was treating the tailings washed down from the Itogon and Antamok rivers and recovering a surprising amount of ore. Innovative methods, new discoveries and the sustained production of the established mines continued to keep Benguet in the forefront of the gold industry.

The Crash, 1937

American mining lore has it that the passage of the Mining Act and the leasehold system administered "the death blow to whatever boom spirit was left." This is arguable since the main producers of gold were only minimally affected and they continued their operations and exploration as before. However, the frontier-style prospecting spirit of the individual miners may have been reined in. In 1937, Benguet mines contributed only 65 percent of total output as compared to 95 percent in the early thirties. However, this was not a result of lower production from Benguet but of increased output in other areas. Benguet was still the unrivaled source of gold in the country.

In 1938, Benguet maintained its production at the previous year's level and major expansion in total gold production again came from outside the Mountain Province (218). The natural depletion of the ore and the inability of technological capability at that time to extract gold profitably from deeper levels adversely affected production. Apprehen-

sions about the outbreak of war resulted in overland transportation difficulties and increased ocean freight rates. The net effect of this was lower comparative output of the Benguet mines in the years, 1939, 1940 and 1941. As such, the end of the boom in gold production came about not so much in a sudden crash but in a gradual slide.

This, however, was not true for the gold stocks. Having been built on so much speculation, the stock market gold boom ended in a decisive crash. In November 1936, coinciding with the passage of the Mining Bills, the gold share average on the Stock Exchange dropped to 192.42 from its peak of 256.3 in October (De Jesus 1978, 35). This caused a frenzied dropping of prices and selling of shares in order to salvage whatever investments were made. Many investors who had hoped to make fortunes on the gold dividends found themselves holding stocks whose value had plummeted far beyond their original, inflated par values. Others who were not so lucky found that they had paid inflated prices for shares in worthless companies which had ridden on the gold fever but whose properties showed no promise of profitable gold production. Without the needed financing, small companies could not begin development or continue their operations, resulting in a rash of mining bankruptcies.

In the long run, established companies such as Benguet Consolidated, Itogon and Lepanto, consolidated their resources, rationalized their manpower, strengthened their finances and ultimately survived the crash. The Gold Mining Association which started out as a lobby group was reorganized as the Chamber of Mines of the Philippines. It assumed the task of directing its members "towards a more rational use of natural resources and more professional and socially conscious conduct" (ibid.). The long term effects of the boom served the purpose of strengthening and sobering the industry. The gold bubble had burst.

The Gold Boom and Igorot Society

As the gold boom reached fever pitch in the 1930s, prospectors and speculators cast further into ancestral lands and territory of the Benguet Igorots for marketable properties. As the industry rushed to become the third largest one in the country, it took over and affected not only the mineral rich areas of Benguet, but also the rest of the social and economic fabric of Benguet Igorot society. The sheer size and breadth of the gold mining industry in Benguet cornered almost all the resources available. The importance of the industry both as a

microeconomic source of profit and an aggregate source of employment and tax revenue gave it precedence over other considerations such as ancestral property rights and the social and cultural well-being of the original inhabitants. More and more demands were made on the scarce resources and Igorot society was faced with tremendous demographic, economic and cultural pressure.

The Rush for Mountain Gold

The higher price of gold and the increased profitability of gold mines resulted in a new stampede of prospectors. These were a different breed from the early American prospectors who had flocked into Benguet in the early part of the century. These men usually staked out enough for themselves, lived among the Igorots and worked the mines on a hand-to-mouth basis. The new breed were speculators who were more concerned with making money on the stock exchange than spending hours panning the streams or mucking out old workings. Land was claimed indiscriminately regardless of whether it was gold-bearing or not and even rice fields, *camote* patches and waterways were not spared. The Division of Mines reported:

Instead of actually going into the wilderness and searching for gold as the old time prospectors did, most of the prospectors during the boom period of 1933 located claims without regard to the occurrence of minerals or the provisions of law regarding the location or staking of mining claims. Some went to the tops of mountains and from this vantage point made sketches of their claims. Some did not even take the trouble of going to the mountains but merely drew sketch maps on which were shown squares to represent the boundaries of the claims. Some of the claims were located on shales, sandstones, tuff, volcanic agglomerates, and other geologic formations which are not gold bearing. Claims were sold and resold without either the sellers or the buyers knowing exactly the location of the claims. (Mineral Report 1926–1933, 12)

The Igorots may not even have known that they were being dispossessed of their lands by these men. Their unawareness may have been interpreted as acquiescence. William E. Dosser, Provincial Governor of the Mountain Province during the gold boom, noted:

No serious trouble has been had with the prospectors, and this only in cases where their rice and camote fields, and in some instances their homes and even whole towns and barrios were included in the staked claims. (Dosser 1958)

The Igorots were losing more of their ancestral lands, communal forests and mining sites to the mining corporations and prospectors. They no longer had recourse to the baknang class which had lost much of its power and prestige. Although still utilized in far-flung villages, most of the baknang had been displaced politically by the American civil government and economically by the mining companies. The likes of Mateo Cariño and Jose Fianza who had the resources and the clout to take up legal battles in defense of their kinship lands were no more. In some cases, it was unscrupulous baknang who sold communal lands to the American companies. As increasingly extensive development and mining work took place, the gold companies cleared their areas of all panners and hole miners. The Igorot gold miners returned to older sites, abandoned earlier because of inaccessibility or lower grade ore.

The gold boom had subjected the physical environment of the Benguet Igorots to tremendous pressure. Old mine areas, pastureland and communal forest were fenced off for the use of the gold and timber companies. Roads and camps were built and streams were diverted to work the mills. Contributing to this was the sheer numbers of new migrants and traffic into the province. Eusebius J. (E.J.) Halsema, long-time mayor of Baguio, reported:

Figures for passengers travelling Kennon road are 8,871 for 1921, against 95,868 during 1934 or an increase of 10 to 1. Births increased 10 to 1, deaths 2 and a half to 1, indicating both rapidly growing population and improving general health conditions. A number of statistics reveal the growth of population: 3 times as many garbage cans used, 2 and a half times the 1919 number of light consumers and water consumers, truck and automobile registrations up from 60 in 1919 to 1,329 in 1934. (Lopez 1992, 35)

Aside from their number, the migrants into the Baguio gold area brought with them their cultures and prejudices which reinforced the "otherness" of the Igorots. One response of the Benguet Igorots was to retreat deeper into the mountains despite the fact that their lives became progressively harder. But the old prosperity brought by the gold and cattle trade could not be had on the steep mountainsides of the interior and a significant number of Igorots chose to participate in the new money driven, wage based economy of the mining areas around Baguio.

Igorots in the Mining Companies

The main participation of the Benguet Igorots in the gold industry and the corollary trades that it spawned was to provide muscle. Executive positions in the mining companies were held by Americans, while clerical and supervisory work was done by non-Igorot lowlanders who were familiar with the requisite accounting and financial reporting. Igorots invariably found themselves, together with other unskilled laborers, doing road work, tunneling, mucking, and other heavy and seasonal work for the mines. Others were employed as cutters and carriers in subsidiary sectors such as the lumber industry. However, the amount of "local" labor employed was only one-third of the total labor force. Two-thirds were lowlanders from the Ilocos and Pangasinan. Moreover, the statisticians did not differentiate between the mountain tribes such as the Ifugaos and Bontocs who were lumped together with the Ibaloy and Kankanay miners in the "local" category.

The experience of Mr. Alvin Farretta of Benguet Consolidated confirms this. He first came to Baguio as a mine shift boss for Itogon in 1941. He stayed in the Philippines for the duration of World War II and returned to work for Benguet Consolidated in 1948. He stayed on until 1980, when he retired to Metro-Manila. In Itogon, he had charge of a shift of 700 to 800 men and was responsible for their operational integrity, production output, and working conditions. Farretta recalls that the largest individual group of workers was from Pangasinan. The group of 'locals' was made up of Baguio based people. At this time, this already included other Cordillerans and Ilocano migrants. "I guess some of them were Igorots."

The heterogeneity of the labor force presented linguistic problems which American management responded to by using Filipino supervisors:

There were our counterparts, the Filipino bosses. They were the direct contact with the men. We spoke to the boss and whatever language he spoke he got his orders across. I suppose Ilocano was the most frequent language. (Farreta 1995, 51)

Already widespread in Benguet, Ilocano was entrenched as the *lingua* franca of the mining community and the different culture groups of the Mountain Province.

The influx of migrant workers into the industry spawned a need for housing for the laborers, since a majority of them were not from the

area. Mining companies equipped their camps with bunkhouses, mess halls and medical facilities. Inevitably, barrios and towns sprung up near these places as the miners' dependents moved in. Small businesses catering to the needs of the miners and their families were put up. Since the mining camps were usually some distance from Baguio, this was a logical move for the Ilocano and Pangasinan traders who followed the miners.

The mixing of tribes may have had an additional effect on the Benguet Igorot workers. The camps tended to be organized along regional lines. There would thus be an Ilocano section, an Igorot section and even a Muslim section. In the beginning there is evidence to show that the miners simply drifted towards those of the same linguistic and cultural group. However, in the later years, this became a company policy of the mining companies to keep order within their ranks. Since management did not initially differentiate the different Cordillera tribes, they usually mixed them all up together. "This mixture of different clan districts in the mines led to a revival of old enmities which sometimes resulted in killings (Dosser 1958). Along with the long peaceful Ibaloy and Kankanay miners were thrown in traditional enemies such as Kiangan and Banaue, and Samoki and Mayaoyao. The resulting tension may have been a reason that some Igorots preferred to leave the corporate mines for their own peaceful pursuits.

Igorots were perhaps a minority among corporate mine workers because operations had reached such a large scale that the mining companies could not depend on the local population alone and had to import men to fulfill their labor requirements. However, this was also because of a conscious decision on the part of some Igorot miners to retreat further into the mountains. It may have been difficult to believe that they would disdain the creature comforts of the mining camps for the isolated areas, but many really chose not to work for the big mines and not to live on company premises under company rules.

Materially, the mining companies introduced a number of positive changes to the lifestyles of their employees and dependents. These included provision of housing, sanitation, medical facilities, and above-industry wages which gave them greater purchasing power and further pushed the Benguet communities along the road to a wage-driven money economy. New roads were built to interior areas and existing roads and transportation improved. Education was still very much valued and the mining companies eagerly put up schools for the miners' children. In the cases of Baguio Gold (Philex) and Benguet Con-

solidated, their schools turned out graduates who were highly competitive in their milieu since the schools were run by priests from St. Louis University, one of the top universities in the north. To this day, many professionals in the mountain provinces got their primary and secondary education in mine schools, paving the way for increased status at home or successful integration into mainstream Philippine society. Farretta makes a fair assessment when he says that: "a lot of prosperity in Baguio has to do with the gold mine." There is no doubt that material, educational and social benefits resulted from the operations of the gold mines in Benguet. Working conditions, wages, and benefits were much better than in other areas or industries. However these material benefits were more of a magnet for lowland migrants and directly benefited a smaller percentage of the original inhabitants than is thought. High wages and extra benefits were enjoyed by a greater number of lowlanders and migrants than native Igorots.

It is very difficult to quantify the effects of large scale corporate activity on the traditional Igorot lifestyle and society. One distinct result was demographic: the movement of populations to and from the minesites and the new ethnic and cultural mix that resulted from the influx of migrants. Traditional Ibaloy Igorot miners were displaced from the rich Antamok and Balatoc areas to lower grade lode and river sites. At the same time, they were replaced by the mine work force with its cosmopolitan character. The gold boom years are recorded in family histories of the Igorots as a time of outward movement from mining sites for "lead families" accompanied by inward movement of families who sought and found employment in the mine areas (Bagamaspad and Hamada-Pawid 1985, 319). Often, younger members of these traditional lead families would gravitate towards the mine areas while migrants into the mine areas would take up farming and gold panning in the interior. The movement of people was thus not one-sided but continuous and interchangeable.

Those who opted to mine on their own produced enough for their needs and their output was snapped up by the gold agents sent by the buyers from Baguio. The essential link in the gold trade, the baknang gold trader was now unnecessary since the gold could be sold directly to companies or gold agents, whoever offered the better price. The mining companies became the main gold buyers, principal employers, and sources of credit and patronage. They had effectively usurped the traditional role of the baknang.

The Baknang: Substitution and Alienation

The baknang bore the brunt of the enormous demographic and socio-cultural pressure brought by the gold boom to Benguet. Unlike the rest of Igorot society, the former abiteg and baga-en, which adapted to the changes brought by the American era quite well, the baknang did not. They had become progressively cut off from the gold mining activity as an integral part of their socio-economic fabric. Since they originally had ownership rights over the gold mines, the gold rush of 1933 and the frenzied claimstaking and mining resulted in a further loss of the few remaining gold holes. These were lost either by the selling of the claim or outright legal dispossession.

Unlike the abiteg who could opt to work as unskilled labor for the mining companies, the baknang were prisoners of their former wealth and prestige. Without access to their previous means of liquidity, gold, and with cattle land dwindling at an alarming rate, the economic base of the baknang shrank dramatically. With this went their traditional prestige. The inability, either because of legislation or depleted finances, to hold ritual redistributive feasts lowered their status in the eyes of the people. The last ritual mummification and burial feast was held in 1912 and the last large peshit in Benguet was held far from Baguio around 1928. Increasingly, they turned to education and the political arena to bolster their rapidly deteriorating positions.

Among the Cariños, all the male children and one female child of Mateo were sent to school. One of them, Jose Cariño (b. 1891) studied in the Rush Medical School in Chicago and returned in 1919 as the first Ibaloy doctor. He went on to become the first Ibaloy mayor in Baguio after World War II. Heirs of the Karantes, Piraso and Kamora families chose careers in politics, the civil service and teaching. Education of their children had become the favored investment alternative of the baknang. Members of other baknang families became the first lawyers, teachers and civil servants across the Ibaloy areas. However, unlike gold, education was not an exclusive preserve of the baknang. They faced increasing competition from the abiteg and former baga-en who realized that, in the changing order, "formal education could make him competitive with the baknang and it became a vehicle toward upward mobility that was not possible under customary law and practice" (Tapang 1985, 37).

The responses of both abiteg and baknang families to cash employment opportunities shifted them away from the traditional occupations

in the villages. This was especially true for younger people who had some exposure to education. New needs and wants which had been created by the mining boom reinforced this further. This condition was reflected in the oral tradition which showed a shift away from pastoral and small-scale mining pursuits to those of employment in big mines, the American government and market gardening (38).

The traditional system of food-labor exchange disappeared and the baknang was unable to mobilize labor on this basis. He had to compete with other employers and he could not rival the American mines with their high wages, medical clinics, and free schooling. The baknang's social, economic and political standing had been replaced by the mining companies and the American civil administration.

The downgrading of the Ibaloy elite class may have resulted in behavior changes and lower self-esteem across generations. Whereas Mateo Cariño and Bayosa were described as "typical baknang," the same was not true for their children. Their daughter Kindja Cariño Smith (b.1895) reported that Bayosa always kept a horse whip handy and that the couple "behaved as if it were their natural right to order the poorer people around and be served. They had loud commanding voices and were always ready to dispense curses or beatings when they did not get their way" (Cariño 1984, 64). The same source says that in contrast to them, their son, Sioco was not aristocratic and overbearing, and did not beat or maltreat his workers. He amassed great wealth in cattle, landholding and houses and was considered by many as the epitome of the Ibaloy baknang. However, to their disappointment, he never sponsored a peshit, even if he could well afford to do so.

The baknang had to survive in the new economy. Deprived of gold which was the traditional source of liquidity, they now turned to the sale of their lands. Most of these lands were sold to finance the political ambitions of the descendants as well as "to support a baknang lifestyle in the changing milieu—big social gatherings, gambling, cars, the night life, heavy spending, etc." (69). Although most of the baknang were educated and members of the professions by the 1930s, very few of them selected to practice these. This was especially evident in the case of the Cariños, who merely lived off their inheritance. Despite the fact that they owned prime real estate in Benguet, mostly in Baguio City, there was hardly any move to translate this traditional form of wealth into productive ventures adapted to the modern world.

In the huge Cariño clan, there were only two such ventures: the establishment of a community weekly, the Baguio Midland Courier, by

Sinai Hamada, a son of Mateo's daughter Josefa (b. 1879) and Reukitse Hamada, a Japanese migrant. Their other son converted his share of inherited land into a thriving strawberry business. It is notable that of all the heirs, it was only from the family infused with Japanese blood that any real business ventures resulted.

Part of this reluctance to sell off lands or turn them into productive ventures was the culture lag between Igorot customary law and the laws instituted by the government. Custom law still dictated that although the title of the land was in the name of the baknang, it was still owned and utilized by a kinship group. As such, any disposal of land would need the necessary agreement of the group and any proceeds would have to be shared with the same group. The difficulty of obtaining a consensus and the minimal individual returns thus limited the possibilities of land use or disposal.

Slow reaction to new opportunities resulted in the baknang being overtaken in the economic sphere by Ilocano, Chinese, Japanese and also by the non-baknang Igorots, who were now armed with education and a diminished image of their erstwhile elite. Bado Dangwa, a student of the Trinidad Agricultural School and a native of Kapangan, translated 5 second-hand cars and a ten peso loan into a transportation empire servicing the whole Cordillera. In 1935, he took the cue from the gold companies and decided to sell shares of stock in his company. In a striking integration of traditional and corporate finance, many kinsfolk and village mates of Dangwa bought shares of stock with old palata coins (Bagamaspad and Hamada-Pawid 1985, 239–40). Japanese farmers soon monopolized the vegetable garden industry in La Trinidad while Chinese settlers put up bakeries, grocery stores, and restaurants in Baguio. The rise of the new economic elite pushed the old baknang class further into the background.

In addition to their economic and political displacement, the baknang of the 1930s were progressively alienated from their people because they could not fulfill the demands of traditional Igorot society. The introduction of wage labor on a massive scale by the American gold companies broke the old food-labor tie in Igorot society. *Cañaos* were no longer seen by the elite as redistributive feasts to reinforce this tie but as an unproductive expense. The prestige afforded by hosting the public feasts no longer brought the previous returns necessary to reproduce the material and physical conditions that allowed the baknang to exercise leadership in the village (Tapang 1985, 37). Despite this, some of the baknang still felt entitled to certain privileges, even

if based only on the images of past glories conjured up by their names and lineages; further alienating them from the changing needs and realities of Benguet society.

Sadly, although the baknang families moved further from their society, they did not find a place among the national elite. Despite their wealth and education, the baknang families were not accepted in mainstream Commonwealth society dominated by Americans and Philippine elite families. Indicative of this was their exclusion from the Baguio Country Club. A by-product of the gold mines, whose membership and function was intricately woven into the mining industry, the Baguio Country Club included such ilustrado members as Benito Legarda, Andres Soriano, and J. Amado Araneta. However, not even one Cariño was a member of this club which stood on what was once part of Mateo's vast grazing ground.

Resilience and Change in Traditional Economic Patterns

Despite the enormous changes which beset traditional Igorot society and the participation of a large number in the new wage and consumer economy, traditional self-sufficient economy continued to exist. It may even be said that progress introduced by the gold companies encouraged this. Construction of roads into interior mining areas resulted in larger and easier movement of people. Itogon-Mankayan-Tuba formed a base for population growth and taxation vital to the development of the province and foci of support and attention (Bagamaspad and Hamada-Pawid 1985, 318). The Benguet miners continued to pan gold and mine individual holes. The exposure of deeper lode veins made by the big mines made readily available more mining holes and enriched the panning streams to these small mines. Families relocated to new mine sites along waterways in the interior areas while others moved downstream of mining camps to pan the tailings of the big companies. Gold agents took the place of the baknang trader and the ease of transport made possible the quick sale and exchange of gold for currency and subsequently, rice, clothing and other goods.

Benguet miners who had worked in the gold mines gained access to and knowledge about the use of mercury, cyanide and homemade mills. They adapted these for their own use outside the company minesites and increased the recovery rate of the ore. The decade of the gold boom thus saw the development of the camote miner as an alter ego of the corporate miner. Camote miners continued the traditional Benguet occupation as lode miners and panners. They continued holding the necessary rituals for the opening of mines and observed the traditional ownership arrangements by not staking claims but simply working the mine until unproductive. Women tended the swidden plot, the pigs and chickens and engaged in seasonal help to the miner. He then sold the gold to the ubiquitous gold agent. All in all, the years of the gold boom saw a parallel gold mining industry which still served to support the lifestyle of some traditional miners, still tied to a self-sufficient economy. This however, was not enough for the larger-scale needs of the baknang.

The decade of the gold boom was one which saw the Igorots adapting to the gold industry and the companies. When they felt like it, they sought employment as miners, carriers, cutters, and other labor in the gold companies and the other corollary industries such as the timber companies. They thus participated in the new wage driven consumer economy that entered Benguet lifestyle but these included improvements and changes that were learned from with the establishment of the gold industry. Others still opted for the traditional American technology. Many others combined the two, seeking seasonal labor with the big mines but still keeping their small mining holes and waterways. As such, traditional Benguet Igorot gold mining survived to a certain extent and showed resilience in adapting pertinent technology while maintaining traditional ownership and lifestyles tied to the self-sufficient economy.

As the 1930s drew to a close, the speculative gold industry had crashed while the major gold companies had rationalized their resources. What resulted was a more sober industry that still had the enormous reserves to become a truly solid one. With the disappearance of the greedy speculators and the rationalization of the workforce, it seemed for a time that the pressure on the social fabric of the Igorots would lessen, allowing time for their economic and social institutions to catch up and adjust to the vagaries of the modern world. This however, was not to be.

The Eve of the Pacific War

Rumors of war in the Pacific had already done their share to dampen the gold industry in the late 1930s. But the fact that there were still tons of gold reserves and the distance and improbability of it all may have blurred this reality for the American mining community in Benguet. Production for the years 1940 and 1941 were on the upswing again especially for the first ten months of 1941 which had already exceeded the previous year's production. Things were looking up again for the gold mines and Baguio at this time was described by many old-timers as "the most beautiful city in the Far East."

Things were particularly pleasant for young single men like Alvin Farretta. For entertainment, they would go to the Pines Hotel for dances with the many daughters of the mine managers. These included not only American girls but also the half-Igorot daughters of oldtimers such as J.C. Murphy and Henry Muller, "who had two or three girls who were beauties" (Farreta 1995). The social life of the gold miners, the armed forces at John Hay and the other business people was centered around Baguio. The upswing in the gold mines and the continuation of the pleasant life in Baguio made it hard for the residents to believe that war was inevitable. In May 1941, all American dependents in Manila were sent back home. The gold mines were ordered to stockpile supplies good for six months. Later that month, the Army dependents in John Hay also left but the mining community stayed on. The pervading sentiment was expressed by Jack Pearson, who later remembered:

We didn't want to recognize [the war] was coming, or we didn't have sense enough to recognize; we weren't told... And it was just a lovely life; everybody was enjoying it; the old saying in those days was, it would take three months to find the Japanese navy and ten days to whip them. This couldn't happen to us. (Laubenthal 1994, 82)

But it did. Pearl Harbor was bombed on 8 December 1941 and the news reached Baguio by radio that morning but was disseminated slowly. Suddenly twenty seven two-motor bomber airplanes appeared above the city and circled towards John Hay. Everyone assumed that they were American bombers on a routine drill but as the camp band went on practicing tunes for the coming Christmas dances, the planes dropped their bombs. This was the first overt act of war carried out by the Japanese in the Philippines.

The American gold mines were immediately ordered closed and mine personnel were dispersed. Machinery, heavy equipment and infrastructure were ordered destroyed or dismantled to preclude their use by the Japanese. The mine engineers who had worked in and nurtured the mines had the overwhelming task of having to do this themselves. Some of them refused, believing that the war would be

over in a few months. Despite this, all operating mines were shut down and their work forces left to their own devices after decades of dependence on the American gold companies. The Pacific War effectively set back the gold industry in Benguet and American domination and ownership of the mines was never reestablished since.

Conclusion

The rapid and unprecedented modernization which accompanied American exploitation of the Benguet gold mines, resulted in huge private profit, government revenues, employment generation and economic linkages for the rest of Benguet society. It also resulted in the alienation of the baknang from their accustomed social and economic predominance in native society. Their power and position had been based primarily on their ownership of the gold mines and their skills as traders. With access to gold denied them, they rapidly lost their place in the economy and society of the Benguet Igorots. Inasmuch as the elite formed the backbone of traditional Igorot society, this meant a complete reorientation of the Benguet Igorot way of life.

Notes

- 1. For accounts on the development of Baguio City, see Robert R. Reed (1976) and James Halsema (1991).
- 2. For full text of the decision, see Bagamaspad and Hamada-Pawid 1985, 253-58 "Cariño vs. Insular Government."
- 3. For full text of the decision see Bagamaspad and Hamada-Pawid 1985, 263-73 "Jose Fianza et al., plaintiffs and appellees vs. J.F. Reavis, defendant and apellant."

References

Andres, Demetrio. 1950a. Pioneering Americans did share in reawakening mining industry. *Manila Bulletin*, July 18.

______. 1950b. Does the State own all minerals found on private land? Director of mines discusses a vital point. *Manila Bulletin*, 2 August.

Bagamaspad, Anavic and Zenaida Hamada-Pawid, comp. 1985. A people's history of Benguet Province. Baguio: Baguio Printing and Publishing.

Barrows, David P. Memoirs of David P. Barrows, 1873-1954. Unpublished typescript.

Cariño, Joanna K. 1984. The Cariños and Baguio-Benguet history. Folio 2. Cordillera Studies Center Monograph Series.

De Jesus, Ed. C. 1978. Benguet Consolidated Inc., 1903-1978, A brief history. Manila: BCI.

De los Reyes, Angelo J. and Aloma M., eds. 1987. Igorot: A people who daily touch the earth and sky. Baguio SynerAide Consultancies.

Dosser, William E. 1958. The Dosser story. The Mountaineer, June.

Farreta, Alvin. 1995. Interview by author. Manila Mandarin Hotel, Makati, 7 August.

Fry, Howard T. 1983. A history of the Mountain Province. Quezon City: New Day Publishers.

Gleeck, Lewis E., Jr. 1975. American business and Philippine economic development. Manila: Carmelo & Bauermann.

Halsema, James. 1991. E. J. Halsema: Colonial engineer. Quezon City: New Day Publishers.

Jenista, Frank Lawrence. 1987. The white apos: American governors of the Cordillera Central. Quezon City: New Day Publishers.

Kamora, Henry A. 1951. A short partial account of Benguet from 1870 up to the present time. Unpublished typescript. Igorot Studies Center.

Kane, Samuel. 1933. Thirty years with the Philippine headhunters. New York: Grosset & Dunlap.

Laubenthal, Sanders A. 1994. A history of John Hay Air Base. Bulletin of the American Historical Collection 22, no. 4: 72-96.

Lopez, Salvador P. 1992. Isles of gold. A history of mining in the Philippines. Singapore: Oxford University Press.

Morehouse, F. B. 1939. The backbone of the Philippine mining industry—the Baguio district. In *Philippine mining yearbook 1939*. Manila: Chamber Mines of the Philippines.

O'Dowd, Charles. 1948. Reminiscences of early mining days in the Baguio district. Baguio Midland Courier, May-June.

Philippine mining yearbook 1939. Manila: Chamber of Mines of the Philippines. Philippine mining yearbook 1940. Manila: Chamber of Mines of the Philippines.

Reed, Robert R. 1976. City of Pines: The origins of Baguio as a colonial hill station and as regional capital. Research Monograph 13. Berkeley: Center for South and Southeast Asian Studies.

Richards, Carmen N., ed. 1950. Death stalks the Philippine wilds, letters of Maud Huntley Jenks. Minneapolis: Lund Press.

Salamanca, Bonifacio S. 1968. The Filipino reaction to American rule 1901–1913. Hamden: Shoestring Press.

Scholey, George T. 1941. Highlights on experiences in the Philippines. *Philippine mining yearbook 1941*. Manila: Chamber of Mines of the Philippines.

Seventh Annual Report of the Philippine Commission. 1906. Report of the governor of the province of Benguet.

Smith, Warren D. 1990. The pearl of the eastern sea: A record of the experiences of an American geologist in the Philippines. *Bulletin of the American Historical Collection* 18, no. 1: 7–37.

Tapang, B. P., Jr. 1985. Innovation and social change: The Ibaloy cattle enterprise in Benguet. CSC Monograph Series.

Wirkus, Winifred L. 1974. History of the mining industry in the Philippines, 1898–1941. Ph.D. diss., Cornell University.