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GOLD RUSH: THE FIRST 10 MILLENNIA

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Introduction

It's really great to be here in Ballarat - a city built on gold if there ever was one. I propose to do three things:

- Illustrate how something called a gold "rush" has been portrayed in popular culture;
- Explain why gold has had this singular effect on human beings; and
- Explore some highlights of gold's economic, psychological, and artistic importance.

As numismatists we've all had the opportunity to handle and study gold in the form of ingots and coins. The same cannot be said for most of our contemporaries. Since the 1930s, when gold coins were recalled from circulation and the gold standard was abandoned few people know at first hand the special heft, inner gleam, and virtual indestructibility of this very special metal. In fact, the noble metal has disappeared not just from circulating coinage, but also, for the most part, from articles of personal adornment, except for small trinkets like rings and, perhaps, gold fillings in our teeth.

Yet I think we numismatists should not congratulate ourselves overmuch in this area. As I researched this paper it dawned on me that most if not all of us suffer from a clearly defined *deformation professionnelle*. How often we have repeated, in one form or another, the mantra that, like other precious metals, gold serves "as a store of value and a measure of worth"! The statement is true, but only a small

part of the truth about our topic. So I look forward to sharing with you something of what I've learned about the rest.

Consider the implications of the term "gold rush." On the one hand it refers to the widespread 19th century phenomenon whereby many thousands of ordinary citizens "pulled up stakes" (itself a gold-rush term) and hastened to the most distant places - California, South Africa, yes, even Australia - in the hope of sudden riches. In contrast to ancient and medieval practice, sovereign states adopted a *laissez-faire* attitude to the private harvesting of gold riches - first by individuals, then, as the need for capital to finance deep mining and technologically advanced refining grew, by private companies. To some extent this process had been foreshadowed by Spain and Portugal in the early modern period, but the metropolitan governments always maintained that the mineral wealth being exploited belonged to the crown, which extracted a hefty concession from miners and refiners at every stage of their enterprise.

On the other hand, the term gold rush can also be taken as referring to the drug-induced euphoria generated by gold or the prospect of acquiring it. Indeed, the corresponding German term, *Goldrausch* unambiguously denotes a psychological state akin to drunkenness.

So let me share with you some moments from classic films that illustrate what a *Goldrausch* is all

about. Consider the 1896 image of long lines of men climbing the snowy Chilikoote Pass on way to Yukon. What lay ahead of these sourdoughs? Gold-bearing gravel 30 feet under the subsoil - subsoil that was frozen solid 8 months of the year and a bog of black goo during spring and summer. What else but a controlled substance, as we coyly refer to drugs today, could induce people to put up with such rigours?

It is seldom one has a chance to view Eric von Stroheim's 1924 silent movie *Greed*. As you could perhaps imagine, it showed what the lust for wealth, especially in the form of gold coin, can do to men's hearts, and those of women, too, as Zazu Pitts demonstrated in the movie when she bedded down on her hoard of 20-dollar gold pieces.

On a lighter note, who can forget Busby Berkeley's extravagant musical, *Gold Diggers of 1933*, in which we learn to respect chorus girls, especially when they come attired like Ginger Rogers.

Which reminds me, a cynical friend of mine once said, a propos of Sonia in *The Brothers Karamazov*, that the notion of a whore with a heart of gold was an oxymoron, because if a real whore had a heart of gold she would have sold it a long time ago. In very lapidary terms my friend touched on two antithetical meanings of **gold** and **golden** we all carry around, in addition to the value-free, numismatic definition I mentioned earlier.

- We disapprove of someone - it needn't be a woman - who sells himself or herself for gold, the archetype of "filthy lucre."
- But, when we approve of something very strongly we are

likely to say that it is made of gold, golden, purge gold, as witness:

The Bible's **Golden Rule**
Aristotle's **Golden Mean**
Hesiod's **Age of Gold** of the past.

Well, what is it that gives this second, undeniably positive, connotation to all things reminding us of that yellow metal? Let's review gold's physical and aesthetic qualities, then go on to consider how they have manifested themselves in history.

Physical and Aesthetic Properties

Gold, hammered into small objects of adornment, has been found in sites dating from the late Palaeolithic era. Along with copper, gold counts as the earliest metal used by humankind. Yet it has no clearly utilitarian value of the sort copper does. Why, then, has it always been prized so highly? Briefly, because of its scarcity, virtual indestructibility, and its ease of working, as exemplified by malleability and ductility.

A) Scarcity Ordinarily, no one gets excited about air or water, however essential they are to our very lives. There's usually plenty of both to go around. But gold is one of the rarest of useful substances. Its average occurrence in the earth's crust is on the order of 0.005g per metric ton. That works out to about 1 part gold in 2 billion. Today, in South Africa at least, it is profitable, despite enormous capital costs, to extract as little as ¼ ounce of gold from a ton of ore, and the resultant tailings that ring Johannesburg make it look like a moonscape with a modern city in the background. A few years ago it was estimated that all the gold produced worldwide in the last 500

years could be contained in a cube 15 feet square that would weigh some 50 tons. There are, of course other metals still rarer than gold - platinum for one, but they do not exercise the same irresistible appeal. What else is involved?

B) "Indestructibility" Once purified, gold, as innumerable finds of treasure salvaged from shipwrecks attest, is not corroded or even tarnished by immersion in seawater, underground burial, or electrolytic reaction with other metals. It is impervious to most inorganic acids, sulfuric, whatever. Only acids that produce chlorine and bromine-like the famous Aqua Regia can dissolve the king of metals. Today the most common refining process makes use of cyanide, not a happy thought for those of the Green persuasion.

Imagine what this virtual indestructibility means! For one thing, it means that the metal can be cast as bars or coins, melted down again, then recast as rings, broaches, inlay on other metals, even made into crowns. And from that kind of personal, princely, or priestly adornment it can be transformed into coin again, or used in industrial processes — or to fill teeth! If you're wearing a gold ring, think of the pedigree it might well have ...

Such durability means that the world's stock of gold has grown steadily for at least 5000 years. The demand for it, however, and its relative scarcity, have never been greater.

What else enters into the equation that explains the millennial gold rush?

C) In short, malleability, ductility, colour, and sheen. The first two qualities can be quantified, the latter two are more subjective. Goldsmiths and their patrons have always been enamoured of gold because of its ease of working and its suitability for articles of adornment, whether princely, cultic, or personal.

Although its softness makes it useful to work gold, alloyed with some other metal, usually copper, in its pure form it is extremely ductile: one ounce can be drawn out to a fine wire 50 miles long. It is perfect, as you can imagine, for delicate filigree work.

Gold is also extremely malleable: one troy ounce of 480 grains, about 50 grains more than an ounce avoirdupois, can be beaten into a sheet of 100 sq. feet just 1/282,000 of an inch thick, or rather, thin: about 1000 times thinner than your notepaper. Now, that is thin: so much so that light shows through as a vaguely green colour through the unbroken surface. Nothing could be better for plating large objects, such as the statue of Athena made by Phideas in the time of Pericles. Accused of cheating on the amount of gold actually used, Phideas was able to strip the gold sheeting off the statue and weigh it: not a mina was missing! Unfortunately, in the final agony of the Peloponnesian War, this gold was stripped off again in 403BC to issue the first and only gold coinage of classical Athens.

The lustre of pure gold seems to glow from within like no other metal. Moreover, since in pure form it does not tarnish or corrode, it readily evokes intimations of immortality. What could surpass it, therefore, for the adornment of palaces and

princes, temples and churches? And in reciprocal fashion, its association with power and the sacred add to its allure.

Gold in History

I hope by now some of you are beginning to experience a slight "gold rush" of your own, just as I have. There is yet another dimension to be considered here, however, and that is the historical role gold has played. The world's stock of gold has grown continually, and at times exponentially, throughout the millennia. But the centre of gravity of that stock has shifted many times, and those shifts have had profound political, economic, and cultural consequences for the Western World. Note that I will restrict myself here to what we used to call "Western Civilisation," simply as a matter of convenience. Even so, I won't try to do more than sketch what I consider the high points.

Egypt

In terms of auriferous regions, Ancient Egypt got off to a very fast start that lasted from the pre-dynastic period well into Hellenistic and Roman times. So ample was Egypt's supply that at times its gold was traded for silver at a mere 1:2 ratio, whereas it fluctuated around 1:10 in the rest of the ancient world.

Decorative uses antedate monetary ones by at least 5,000 years. The Egyptian hieroglyphic symbol for gold reflects this: it is a string of beads, presumably gold, hammered for necklaces very early on. Cowry shells appear as items of decoration even today. A necklace of gold cowries (c.1900 BC) seems to show how the Egyptians strove to improve on nature by creating cowries that were lustrous, perfect in form, and immune to the breakage of real

cowries. In order to make such objects the goldsmiths of Pharonic times must have mastered the *repoussé* technique, which implies that they understood the need for repeated annealing and quenching when making any but the simplest objects of gold.

Indeed, technological progress in Egypt was continuous if not always rapid - the technology of extracting and working gold that they developed was never lost, simply improved on, in its long history. In the second century BC, Diodorus Siculus gives us a long, detailed description of the complex division of labour involved in deep mining — the extraction of gold ore from granite and quartz mines so deep that some of the unfortunate workers never saw the sun for the rest of their miserable lives. This was, of course, forced labor, and an indication that such mining was a Pharonic monopoly and had been since the 4th millennium BC. Another important technological invention of the Egyptians was the cupellation process.

A relief from the middle of the third millennium BC gives a hint of the sophistication of goldsmiths of the time, showing them engaged in different stages of production and quality control.

The kind of quarrying in deep shafts described by Diodorus was typical of a sixty-mile wide stretch of rich ore that bordered the Red Sea for 200 miles. Further south and west, from the first to the fifth cataract of the Nile, lay the rich alluvial deposits of Nubia, where natural hydraulic processes had for millions of years freed gold from its rocky matrix and made it available as dust and nuggets to be gleaned from the banks of the Nile. In fact, the very

word Nubia derives from the Egyptian word for gold, which was *nub*.

The gold falcon of around 2300 BC is from Hierakonpolis in Upper Egypt and is probably made from Nubian gold. The restraint and economy of means evident in this early work suggests that "classic" style was no monopoly of the Greeks nearly 2000 years later.

Now, it is important to realise that much of Egypt's large stock of gold was regularly taken out of circulation for the ornamentation of Pharonic and other important graves. In this case, as C. Gordon Childe noted long ago, Egypt's numerous and skilled grave robbers performed a useful social function by just as regularly returning these riches to circulation.

The bad news about that, however, is that we can scarcely imagine the sophisticated use of gold for cultic and personal adornment in ancient Egypt. In fact, we would have almost no idea of it except for the survival of one tomb virtually untouched by the customary pillage. The famous tomb of Tutankhamen (14th century BC), discovered in 1922, was not even one of the grandest of royal burials, but it gives us some idea of the lavish but tasteful use of gold by Egyptian artists. There are splendid examples of burial goods that have escaped the tooth of time. Although they come from near the end of the indigenous rule of Egypt, their quality belies the country's decadence.

Of course the commercial, and even quasi monetary, utility of gold was discovered early on. Menes, the founder of the First Dynasty of unified Egypt in about 3100 BC, is known to have issued pure gold ingots of 14g inscribed with his

name - perhaps these ought to be considered the first coins, since they meet all the classic definitions.

Mesopotamia

Mesopotamia possessed no native gold supplies, despite being a river-valley civilisation like Egypt. What gold these states did have was obtained in trade from Egypt and from smaller deposits in the Arabian peninsula. Nevertheless, goldsmiths of the region developed a skill in working the metal that rivals that of the Egyptians, like this ceremonial helmet of a king from Ur, around 2700 BC, or the impressive gold cup from about 1000 BC found in north-western Iran.

Troy

The fabled riches of Troy deserve at least a footnote here: they belong to this time period and era, although we don't have the kind of reliable documentation we do about other Middle Eastern kingdoms. The treasures recovered by Schliemann and his successors demonstrate a very high standard of gold smithing talent and good taste on the part of their patrons. I like to think Helen of Troy might have worn the 6-lobed ring in her golden hair or the bracelet made of 4 rings alternately flat and twisted soldered together on her arm or, especially, the pin surmounted by 6 miniature vessels would have looked just right on the elegant black *chiton* she wore in the movie.

Persia

Persia's conquest of the entire Near East, as well as Egypt, made her by far the richest state in the Western world. She inherited in this manner not only the vast gold stocks of Egypt, but could continue extracting the metal from there and from

Arabia. As you well know, Persia also conquered the wealth and continuing gold production of Lydia, whose king Croesus was a watchword then and now for the riches he derived from alluvial gold produced by the River Pactolus. Persia also acquired from Croesus the system of minting coins in pure gold and pure silver, instead of the combination of both in the form of electrum previously used for coinage. The gold Darics and silver Sigloi found use mainly in the western part of the Empire, the part inhabited or strongly influenced by the Greeks. Both gold and silver coins were major contributors to Persia's strength, whether for the hiring of mercenary troops or for bribing avaricious Greek political leaders.

Greece

The Greeks were paupers when it came to gold, which is why almost all Greek states adopted a coinage system based on silver. Goldsmiths in Magna Graecia did, however, show artistic talent creating small objects like a ring with a chariot-and-Nike theme.

Philip II of Macedon changed the Greek coinage system radically when he began the intensive exploitation of the gold deposits in his Thracian provinces, producing gold and silver staters in profusion and laying the monetary groundwork for the conquest of Persia by his son, Alexander III. By the time of Alexander's death in 323 BC, the centre of gravity for world gold stocks had shifted profoundly to the Greek world, albeit a Greek world that soon shattered into kingdoms founded by Alexander's successors.

The kingdom acquired by the Ptolemies was of course the richest prize, for its temples were full of gold and its mines were still producing more than any other area.

The Seleukid Kingdom centred on today's Syria and Iraq had access to gold from Arabia, which it controlled, and from the Phoenicians who got their gold from the mines exploited by their colonies in south eastern Spain, or from their traders, who obtained the precious stuff from as far east as India and possibly as far south as Somalia or even the Transvaal area of Africa, the fabled land of "Punt."

Third to share in the West's growing supply of gold was Macedonia, which had its own mines as well as access to large quantities from the Black Sea and Caspian Sea regions, home to the fabled Golden Fleece in Scythia. Nor should we overlook Thracian settlements like Pantikapeum

The Romans

If the Greeks were poor by comparison with the Persians, the Romans during their early history had access to neither silver nor gold. A silver coin for internal as well as external use - the Denarius - was not introduced until near the end of the Second Punic War.

With that hard-fought victory, the Romans suddenly found themselves masters of some of the world's richest gold mines, those of south eastern Spain formerly worked by Carthage. The Romans brought their formidable administrative and engineering skills to bear on these mines, where they even employed hydraulic methods to separate gold from its rocky matrix; the same skills were soon applied to areas in North-West Spain - Asturias and Galicia today - that had previously lain virtually untouched. The traveller to those areas today will encounter an occasional concentration of *marigatos*, who

dress differently and speak a different language from other Spaniards, and who are thought to descend from the Roman's slave miners there.

Small wonder that with reserves like this, Julius Caesar could initiate a regular coinage of very pure gold, establishing a tradition carried on, even after the fall of Rome in the West, by the Second Rome, Byzantium. These coins, down to the third century at least, deserve to be considered works of art in their own right, embodying as they do the realistic conventions of Roman portraiture in the noblest, most easily worked, most beautiful of metals.

Octavian's conquest of Egypt from Antony and Cleopatra brought so much of the world's gold supply within the Roman Empire that the stuff was now available to even moderately wealthy Roman private citizens for hoarding and ostentation. The Roman poets and essayists of the time harped constantly on the corrupting influence of so much wealth, but Nero's master of entertainments, C. Petronius Arbiter, brilliantly described the lavish use of gold in his *Satyricon*, particularly the part of it that portrayed the vulgar ostentation of the nouveaux riches invited to "Trimalchio's Dinner."

When the Emperor Trajan defeated the Dacians in what is now Romania, his take amounted to enough gold to coin 22½ million aureii and enough silver to make 90 million denarii, as well as the ongoing future production of the Dacian mines. Consider that ratio of precious metal for a moment: 22.5:90, which works out to exactly 1:4, a much higher proportion of gold to silver than the formerly prevailing

exchange rate. I had always wondered why Trajan - by all accounts one of Rome's most competent and virtuous emperors - saw fit to debase the silver content of the denarius, a course of action followed by his successors among the remaining "Five Good Emperors." The reason for this step must have been the need to maintain something like the traditional relationship between gold and silver. The over-supply of gold made it cheap relative to pure silver; making silver coins with less and less precious metal made silver more plentiful too, at least in appearance.

One of the most outstanding examples of numismatic use of Gold by the Empire was in the form of medallions: thought to have been awards to particularly important political and military figures. Only recently did I become aware that a goodly proportion of these special tokens of esteem - or perhaps bribery - were also awarded to potentates outside the Empire - rather on the lines of colonial American Indian Peace Medals. I was surprised to find out that some at least of these were outstanding works of art. The contrast with the gold solidus of Constantine I could hardly be greater. The late-imperial ideological thrust showing the Emperor in an idealised manner, eyes looking upward as if in touch with the Deity himself, the same kind of pose preferred by the successors of Alexander, and perhaps for similar reasons. At any rate, the transformation of the Emperor into a lofty, distant, unapproachable Oriental Monarch had been completed by the early 4th century.

The Middle Ages

Byzantium

With the collapse of Rome in the West (traditionally dated 476) gold

coinage - and virtually all other uses of gold - virtually disappeared for the next four hundred years, though occasional Byzantine and Islamic gold coins have come to light in various hoards. For another thousand years the Byzantine Empire survived in increasingly parlous condition. During most of this time, Constantinopolis, the polis founded and named for Constantine, survived as the only real city in Europe. The modern name Istanbul reflects this: it is a corruption of the Greek for "To the City." In the early period, down to about 1000 AD, Byzantine emperors had ample reserves of gold to underwrite ongoing wars with a coinage based almost entirely on gold, lavish use in mosaics, and, of course, the adornment of churches, the Emperor, and the Emperor's retinue and clergy. When the Emperor Anastasius died in 518, for example, he left a personal treasure of 320,000 lbs of gold; and as late as the 10th century Basil II had a gold reserve of 200,000 lbs to help ward off the forces of Islam and to earn the title of "Basil the Bulgar-Slayer".

Islam

Beginning in the 7th century, the spectacular rise of Islamic states in the Near East, then along the North African littoral and into Spain, deprived Byzantium of its virtual monopoly on gold. Huge treasures in gold fell to the jihad in the former Persian Empire and in the Christian Churches of what became the Muslim world. In addition, the new states could now exploit the rich mining areas of Arabia, Egypt, Nubia, and Spain. In fact, Arab traders rivalled their Phoenician predecessors in the quest for gold wherever it might be found. Most astonishing, perhaps, is the 1000-mile caravan route they

established across the Sahara from Marakesh in today's Algeria to Timbuktu in modern Nigeria. Soon the Islamic Dinar rivalled, then surpassed, the Byzantine Solidus and its subdivisions as the international means of exchange.

Europe.

What I said earlier was not meant to imply that during the Dark - and Early - Middle Ages Europe saw no gold at all - just that it was extremely hard to come by in the insignificant deposits and alluvial streams then accessible. Trade was also a meagre source, since Europe had little in the way of luxury goods to offer the Muslims or the Byzantines. Europeans got most of their gold from trade in fur, amber, and slaves, a word whose resemblance to Slavs and Slavic is no accident.

A lot of the gold that was available in the West ended up as ornaments or hoards in the burial mounds of Germanic and Nordic barbarian chieftains. Islamic gold Dinars, for example, have been found as far afield as Iceland. Artistically, this dearth of gold had consequences visible even today in our notion of "jewellery." Churches, kings, and princes were virtually the only Westerners with access to gold, but even they could not afford to be lavish in its use.

Rather than make a king's crown of pure gold, as the Hellenistic Greeks or the Romans did, medieval goldsmiths were constrained to find ways to use gold sparingly, but without any loss in its capacity to overawe and dazzle. The solution was what we call *cloisonné* work, seen for example in the 10th century German Imperial Crown. All sorts of bright, sparkling objects, sapphires, but also garnets and even coloured

glass, are set in *cloisons*, or cells, atop the gold, whose gleam is more subdued than theirs and seems to come from within.

To cite another example, the famous Stavelot Triptych was made for a Benedictine abbey in Belgium around 1150. The extravagant use of *cloisonné* and *champlevé* enamel balances the merely gilded copper and silver body of the elaborate shrine thought to hold a piece of the True Cross. Manuscript illustration was another field in which tiny bits of gold went a very long way to produce a sumptuous appearance at relatively modest cost.

Increasing Mediterranean trade in the High Middle Ages, trade with both the Islamic states approaching their apogee and with Byzantium approaching its nadir, made it possible for the emerging states of Europe to begin issuing gold coinage for the first time in the 13th century. Florence led off with the Florin in 1252, followed by Genoa, Sicily and Naples, France, and, at the end of the century, Venice with its Ducat in 1284.

Meanwhile the search for more and still more gold went on, whether by alchemy, which had originated in the Hellenistic era, or, more promisingly, by overseas exploration. I needn't retail here the rivalry of Portugal and Spain in this search, noting only that in terms of gold, the Spanish truly struck it rich in the Americas.

Latin America

In Hispaniola, where the first Spaniards settled, a reign of terror against the indigenous Tainos brought scant reward in the form of confiscated gold trinkets or in new supplies won through forced labor, although the oppressive regime of

their foreign masters soon led to the extinction of the entire native population.

Things were different in Mexico, at least from the Spanish point of view. Cortez and his men used every possible treachery and cruelty to extract an estimated 2000 lbs of gold from the Aztecs and other native peoples. Almost all this precious metal was in the form of cultic or princely display and adornment that was immediately melted down into ingots. The result is that we have no better idea of what Aztec art in gold looked like than we would have of the same art in Egypt except for King Tut's tomb.

Peru experienced similar treatment from Pizarro, where the Inka King Atahualpa paid a "ransom" by filling the room in which he was confined with gold objects fetched from throughout his enormous kingdom. When some 13,000 lbs. had been piled up in the room, a pretence was found to murder Atahualpa under cover of law. (It is only fair to note, however, that Pizarro had him baptised before he was killed. As Balzac noted, "behind every great fortune there lies a great crime."). It took Inka goldsmiths a month, working around the clock, to melt down the gold artwork they had taken years to create. In the case of Peru, as of Mexico, we have only the most scanty idea of what indigenous gold artwork looked like, except for scattered grave goods discovered much later or from individual articles sent back to Charles V and added to other treasures in Hapsburg possession, articles that can now be found almost exclusively in Vienna. Colombian grave goods, however, survived rather better, as a visit to the Gold Museum in Bogota will demonstrate.

Numismatic museums, on the other hand, not to mention private collections and the vaults of the state of Florida, are amply supplied with specimens of the crude gold "cob" coinage issued in the Spanish New World for the next 200 years or so after Columbus.

The Spanish appropriation of native gold was a not-to-be repeated windfall, of course. And neither the native peoples nor their new masters knew how to mine any but surface deposits. Silver, however, was a different matter. It was both easier to mine and vastly more plentiful in the Spanish colonies. This led before long to a drastic change in the prevailing European gold-to-silver ratio. Within a century it changed from about 1:10 to the ratio of 1:16 that most of us grew up thinking of as the "normal" figure.

There is no time to explore the new wealth's result in terms of the "Price Revolution of the 17th Century", but it is worth noting that on the positive side of the ledger, 17th- and 18th-century hyperinflation made it more attractive to take on debt in order to create larger-scale, more efficient, and ultimately steam-powered mechanical production and transport. That process in turn brought the supply of goods relative to money back into balance in the course of the Industrial Revolution. By the late 18th and early 19th centuries, newly productive sources of gold in Brazil and Russia merely helped maintain, not disturb, this equilibrium.

Artistically, this was not an age of special distinction in gold work, unless you are fond of *objets de vertu* like Cellini's over-rated Salt Cellar for Francis I.

The 19th Century

Despite its importance, I have only a few comments on the 19th and 20th centuries, since my colleagues will be addressing these periods in some detail.

The United States first discovered gold in its own backyard in the Appalachian region around North Carolina and Georgia. Those strikes provided welcome additions to the scanty American stockpile, but the total harvest - estimated at about 50,000 lbs up to 1850 - was small beer in terms of worldwide production

The true, archetypical Gold Rush was of course the one that began near Sacramento, California in 1848. Digging, sluicing, and panning for gold in California was, however, in two respects similar to the Appalachian discoveries, and provided an intimation of where future sudden rushes might be expected. California's ore and dust and nuggets were found in areas previously untapped for precious metal, so that gold had built up as surface or near-surface deposits for billions of years before humans began to exploit it. And, just as in the 1830s, for the first time in history the government was content to leave gold production entirely to private initiative.

California set the pattern for the rest of the century and down to the present, at least in capitalist economies. That is, deposits are discovered large enough to inspire a mass migration; the easily reached ore and nuggets are soon exhausted, so that profitable extraction can take place only by using complex, capital-intensive methods. Companies are formed to undertake such deep mining. A few sourdoughs settle down to another trade, but the

rest "pull up stakes" and move on to the next fabled El Dorado, leaving mine tailings and melancholy ghost towns in their wake.

This pattern repeated itself in Australia, where some of the largest masses of gold ever found were turned up very near here. In 1872, a Mr. Holtermann's mine yielded up a mass of gold-bearing "reef" that weighed 635 lbs before processing into 250 lbs of pure gold.

Nor should you forget the discovery of the "Golden Mile" deposits of Kalgoorlie, discovered in 1893 by two prospectors waiting for the water trains to arrive so they could refill their canteens.

Circumstances were similar in Nevada, site of the Comstock Lode; in Colorado, Montana, and in South Dakota. And finally there was a last "poor-man's gold rush" at the end of the century in the adjacent Canadian and Alaskan fields of the frozen Northwest.

Economic Strife

In the latter part of the century the irregular alternation of silver and gold strikes led to acrimonious struggles in all the more advanced nations over whether to base the economy on a bimetallic standard or to adopt the gold standard as the only backing for fiduciary issues. This was an especially hard-fought battle in the United States, where the eastern wizards of finance supported the gold standard against the partisans of bimetallism, who advocated the free coinage of silver. Debt-ridden farmers and western silver-mining interests favored bimetallism for obvious reasons and made up an important part of the Populist Party. William Jennings Bryan, their Presidential candidate in

1896, went down to defeat with the ringing cry, "They shall not crucify mankind on a cross of gold."

It is an amazing coincidence that we find ourselves today in a major gold-mining center of a country that its inhabitants often call Oz. Because it was exactly 100 years ago that Frank Baum first recounted the story of *The Wizard of Oz*. This was a Populist allegory in the guise of a children's story. It tells how a girl named Dorothy and an assortment of odd friends contend with the Wicked Witch of the East, the financial barons of the East Coast. You may know the movie with the young Judy Garland. If so, you may remember that she & her friends must follow the Yellow Brick Road - a metaphor for the Gold Standard. But you will remember her as wearing ruby red slippers. That's because the film studio had just perfected the Technicolor process and wanted to show off its visual capabilities. In the book, finally published in 1900, however, Dorothy wears silver slippers - footwear appropriate for a lass from Populist Kansas. The allegory goes on and on, but I'll leave you to figure out the rest while you're still here in Oz.

Overall, these "rushes", together with the increasing output of the Main Reef area of Transvaal and Orange Free State in South Africa, meant that for the first time since the early Roman Empire, and to an even greater extent, ordinary citizens were personally familiar with gold in meaningful quantities. For most, that meant gold coins in whatever local denominations. For a considerable segment of the upper-middle and upper classes, it meant that luxury objects made of gold were in good supply. Cities like Newark, New Jersey, produced

such objects in great numbers, from watch fobs for men to women's change purses worked in gold mesh and citrine - worth more than any amount of change they might harbour.

Conclusion

Gold no longer enjoys legal tender status for domestic exchange and is no longer coined anywhere for actual circulation. But it is still the last-resort backing for the fiduciary money of our age in international exchange. It is ironic, of course, that something like half the gold stock in the world lies entombed in Fort Knox, and perhaps another third of it is deposited with the various Federal Reserve Banks of the United States. The beautiful metal that cost so much of the proverbial blood, sweat, and tears to tear from the bowels of the earth now lies entombed in government depositories, more difficult to get to now than it was before it was panned or mined.

Max Weber used the term "*Die Entzauberung der Welt*" to describe the "Disenchantment" of the modern world, with its increasing predictability and prosaic pursuit of an everyday life from which all sense of magic and wonder has been banished. His term applies with special force to gold, the wonderful, alluring metal that has kept mankind spellbound from the Neolithic age almost to the present.

Half the world's annual gold production today comes from South Africa, where it is found only after a lengthy and expensive mining and refining process requiring 10 tons of ugly gray muck and gravel to produce an ounce or so of refined gold. New sources continue to crop up, as from Brazil, that I like to call Gold diggers of 1983, but the images remind us more of *Germinal*

than of the glittering nuggets that once shone on the banks of rivers like the Pactolus or the Sacramento!

Using scientific and capital-intensive methods, twice as much gold has been produced in the last 50 years than in the 2½ centuries since Columbus' discovery of America. Another way to state the point is to note that since 1798 three times as much gold has been produced as was produced in the entire preceding 5000 years. When one considers the virtual indestructibility of purified gold in the stocks built up since prehistoric times it is obvious that the metal is vastly more plentiful than ever before in human history.

Yet as I pointed out earlier, few of us have any real, tangible knowledge of it:

- Gold coins are no longer a circulating means of exchange;
- Gold has largely disappeared from personal adornment, displaced by costume jewellery;
- Churches no longer shine with the lustrous metal, unless it be in the form of gilt domes and the like;
- Even tableware now seldom contains silver, much less gold.

Where, after so many millennia, has all the stuff gone?

A considerable amount is locked up in finger rings and ear rings all over the world. These objects are individually too small to give an inkling of gold's real beauty, its real allure. Perhaps ¾ of all extant gold is immobilised in government stocks used to back fiduciary issues in the international market. A trifling amount - less than the aggregate embodied in gold fillings - devoted to the annual production of non-circulating legal-tender coins

produced with hefty surcharges for collectors and speculators.

Just about all the rest goes to various industrial uses, including those that require a non-corroding metal with an electrical conductivity 67% that of silver, as I recently saw for myself when I installed another 32 MEGs of RAM on my PC.

So the magic of gold has been vanquished by the prosaic nature of the modern world. But we happy few, as historians and numismatists, can relive that magic vicariously. And in our capacity as museum curators, we can try to communicate some of that enchantment to the public we serve.

For a fuller text, including illustration, please refer to:

William L. Bischoff, 'In the Realm of the Senses: The Aesthetic Dimension of Gold,'
in Richard E. Knapp and Robert M. Topkins (eds.), *Gold in History, Geology, and Culture: Collected Essays* (Raleigh, N.C., 2001)