

The Banker and the Chemist

During our banking crisis comparisons have been made with crash of 1929 and its aftermath. I doubt if anybody this time round has considered resorting to alchemy, but something very like alchemy was, it seems, contemplated in the earlier crisis. Being neither an economist nor a chemist I'm not really the right person to tell the story. I'm telling it because I happened to find some documents that led me to it. I was looking through my father's papers for something about my own family, but instead I found this file.

The file contains some 42 documents, most of them correspondence between Reginald McKenna and Charles Julius Gladitz during the period 1929-32. McKenna was chairman of the Midland Bank. His letters are either hand-written or typed, some of them on the Midland Bank notepaper. Gladitz was a German living in London, a chemist with a factory in Southall, Middlesex. Gladitz's side of the correspondence is in the form of typed carbon copies. The file evidently belonged to Gladitz's firm.

Looking at it casually I found that it had to do with some sort of industrial process. For years I put it aside, but when I finally had time to read it all through it turned out to be not just any old industrial process, but a method of extracting gold from some unspecified raw material. It was, I thought, probably worth looking into.

To see the full significance of the story we need to remember that at the time gold was not merely a very rare and valuable commodity as it is now; it provided the basis upon which the world's finances rested. The *gold standard* meant that central banks were obliged to sell gold at a fixed rate, in the UK this rate was £3.17.10½ per ounce. This had two very painful consequences. The first was that central banks, when they got hold of gold were very reluctant to use it, which resulted in a failure to spend or invest and so contributed to the catastrophic international depression. The other consequence was that when confidence in the currency fell away people bought gold from the central bank. The demand for gold during this period was enormous. The papers reported that gold jewellery and artifacts were being bought for melting down, with the price rising to £5.0.9 per fine ounce, considerably more than the Bank of England's fixed exchange rate. A Hatton Garden dealer estimated in April 1932 that £15m worth of gold would be handled in the year.¹ The Bank of England's gold reserves declined rapidly to the point at which it seemed that the nation was on the point of bankruptcy and the government fell. There was a way out – to abandon the gold standard – but although the best economists favoured this solution, and it was eventually adopted, at the time of our story it was thought to be politically impossible.

Gladitz's first letter assumes that McKenna already knows the nature of his gold-extraction project. He describes how he has just sent a German delegation away, turning down a substantial offer rather than allow them to submit his findings to independent scrutiny. He asks McKenna for technical advice on how mining companies prepare their gold bars for deposit in a bank. Six months after this initial contact McKenna paid £6250 for 25,000 shares in Gladitz's New Process Company.² He was not alone. Several of his associates were involved, including a fellow member of the Midland Bank Board, Hugo Cunliffe-Owen, chairman of British American Tobacco. Gladitz's chemical factory probably had some conventional industrial work to keep it going, and we don't know what he did with all the capital invested, although the letters refer to new equipment acquired by the company, much of it from Germany.

The letters suggest that Gladitz and McKenna got on well together. They were both in their sixties, apparently prosperous and well advanced in their respective professions. Gladitz made a present of a thousand shares to Mrs McKenna and when she wrote to thank him she told him that her husband regarded his discovery as the 'most astonishing scientific achievement of our time', and Gladitz in reply expressed admiration for McKenna's abilities in a 'very serious field of activity'.³ McKenna wrote sympathetically when Gladitz was ill, and in turn was touched when Gladitz sent condolences on the death of his son at the age of twenty-one.⁴ Gladitz, in writing to McKenna about his work, did

¹ *Daily Express* 14 April 1932

² Documents 1, 3 & 4

³ Documents 6 & 7

⁴ Documents 29 & 39

not confine himself to dry technical matters, but wrote enthusiastically, almost mystically, about how his discovery had brought him into contact with the 'Higher Wisdom'.

With the conception of these laws one cannot prevent to gain a solemn reverence for that Higher Wisdom, which must be the Originator of the unmeasurable grandeur of the whole cosmos, where everything has been so wonderfully organised from the creation of the uncountable suns in the cosmic space down to the action of the most minute grain of seed, from which a beautiful bloom of flower is growing. In all these happenings a tiny little "Telomol" forms the structural unit, with which the great unknown architect creates worlds, animals and human beings. The little "Telomol" is small enough to travel invisible around us in form of vapour or emanation, and in spite of this general invisibility it is so material and real that it can act as the most reliable unit, of which mountains are built.

If a man has come in such a way in touch with the evasive structural unit of the universe, and is now able to make it visible, he feels that he is in touch with the very delicate fringe, where the coarse material matter vanishes into the invisible one, and makes him feel conscious that he certainly has an important mission. It is certain that such a mission must have a good purpose, so that it can become a blessing of mankind.⁵

Gladitz always insisted that his invention was to be used not for individual profit but for the benefit of mankind in general and the British in particular.

Despite the warm and confidential relationship that seems to emerge from the letters, things may not have been quite as cosy as they appear. On the one hand remembering that Gladitz was extracting a fair bit of money from McKenna, it's impossible to smother all suspicion that he may have been a confidence-trickster. On the other hand it is hard to believe that an experienced businessman like McKenna was prepared to take everything Gladitz told him at face value. Even if he did not suspect Gladitz of dishonesty, McKenna must have wondered whether he was perhaps a crank. While he never admits to any doubts about the process we can see McKenna tactfully but persistently probing, urging Gladitz to be more precise about what he hoped to achieve and to produce something that could be checked – and every time Gladitz resists. Always he is on the point of a breakthrough, but always there is one more difficulty to be overcome.⁶ When McKenna suggests getting outside advice Gladitz replies that no-one else is capable of understanding the process, no-one before has done anything like this.⁷ When it is not the sheer difficulty of the operation that holds him up, there are other excuses, such as faulty equipment, or family troubles and illness among his key collaborators.⁸ McKenna's friend and fellow-shareholder Sir Hugo Cunliffe-Owen was travelling in China at one point, anxious to have weekly progress reports cabled to him (in code). This gave McKenna an excuse to press for information, but he was careful to show that he understood Gladitz's difficulties: 'I am sure the trial of your patience is very severe but I think you bear it wonderfully.'⁹ At a fairly early stage, it seems, Gladitz passed McKenna a small amount of gold allegedly produced by his process, and it was accepted and sold as usual. Cunliffe-Owen wanted more to be sold, but McKenna advised holding off, conscious that any such sale needed to be handled carefully. We'll look at the most remarkable of McKenna's probing letters later.¹⁰

Around the beginning of 1932, McKenna obtained what appears to be a fairly sceptical technical report on Gladitz's claims. The unnamed expert does not dismiss Gladitz's ideas out of hand, but is non-committal, unsurprisingly, because he had little precise information to work on.¹¹

At the end of March 1932 McKenna wrote to Gladitz saying he had another scientific report which this time supported 'all your theories very remarkably' and which would interest him for both

⁵ Document 10

⁶ Documents 23 & 24

⁷ Documents 27 & 30

⁸ Documents 31, 35 & 38

⁹ Documents 32 & 34

¹⁰ Documents 8 & 11. I am only guessing that the sale referred to in document 8 (17 December 1929) is a sale of gold. When document 11 (18 February 1930) refers to undesirability of selling anything further it is pretty clearly referring to selling the product. The Keynes packet of April 1930 (see below) states that some of the alleged product had been accepted by the Bank of England.

¹¹ Document 40.

scientific and commercial reasons. Saying that he could not let such a sensitive document out of his hands, McKenna announced that he would call at the Southall works the next day.¹² The short notice for the visit (though adequately explained) was exceptional, since on previous occasions McKenna had always taken care to find a time that was convenient for Gladitz. Apart from a telegram the next day warning that he would be a little later than planned, this letter is the final item in the file, which may indicate that some sort of showdown occurred at the meeting. So far as the documents in the file are concerned that is as far as we can take the story. They don't tell us how the relationship between Gladitz and McKenna started, nor how it ended, and we are left to guess what the two men were really up to. My initial guesses on reading through the letters were as follows.

So far as Gladitz was concerned I couldn't tell whether he was a crank who genuinely believed in his process or a straightforward fraud. If he was a confidence man intent on getting McKenna to buy shares in a spurious process he could hardly have managed it better. In good con-man style he started off by impressing his victim with the importance and value of the process and by persuading him that it was too sensitive to be brought under independent scrutiny. He also made it clear that he was only approaching McKenna in order to get some technical information from him, and waited six months before allowing the idea of making an investment to be raised.¹³ McKenna knew nothing of the chemistry involved and it would not have been difficult to impress him with some of the ordinary chemical processes at the works, along with a few plausible-sounding technical phrases. Right up to the beginning of 1932 Gladitz managed to avoid telling McKenna anything that could be passed to an expert and used to discredit the process. The only thing in the letters that makes me doubt this view of Gladitz is his long rumination on metaphysics, which seems too obviously cranky to be the work of a confidence trickster. However, perhaps Gladitz knew his man and knew that it was calculated to impress McKenna.

Whether Gladitz was a fraud or a crank, I found it hard to believe that a responsible financier would have been quite as convinced by his story as McKenna seems to be in his letters. My feeling was that McKenna was getting involved for two main reasons. First there was perhaps a remote possibility that Gladitz really was on to something, in which case the Midland Bank and the United Kingdom should not lose the chance of benefiting from it. Secondly there was a danger that the story, true or false, might get out and be believed, which would cause chaos on the international financial market, so it was important to keep a close eye on Gladitz. If by 1932 McKenna had become convinced that the process would not work it was important to put a clean end to Gladitz and his pretensions. I almost thought one could invent a John Buchan story in which McKenna saved the integrity of the financial system by unmasking a sinister fraudster who threatened to flood the market with suspect gold.

As I said, these were my initial guesses, based on reading the letters in the file. What can we discover by looking beyond the letters?

A handful of press references yield a certain amount of information about Charles Gladitz. Born in 1867, he was by the 1920s married to an Englishwoman and living in Ealing. At some point he became a naturalised citizen. He had a grown-up son, possibly by an earlier marriage, who assisted at his chemical works and who remained a German citizen. He was in his forties and working as a clerk when he became interested in chemistry. He patented a press-mould for use in the manufacture of tungsten bars in 1913, and in the same year he founded his New Process Company.¹⁴ When war broke out he was considered to be too valuable to be included in the exchange of citizens, and was interned on the Isle of Man for the duration. He said that it was during this enforced idleness that he worked out the basis for his revolutionary process.

Early in February 1932, after years of secrecy, Gladitz went public. The *Daily Express* ran a front page story with the headline: 'Gold from lava – German with secret London factory – Amazing scheme'. The story refers to Gladitz as the 'wizard of the lava' and compares his romantic venture with 'old-

¹² Document 41

¹³ Documents 1, 3 & 4

¹⁴ US Patent 1,091,430, filed May 28, 1913, in the name of Karl Gladitz of London, describes a press-mould for use in the manufacture of metallic bars from finely divided metallic powders, in particular the manufacture of tungsten bars or rods 'which are absolutely homogeneous, perfectly metallic and completely free from bubbles or cracks.' For the scraps of biography see *Daily Express* 2, 22 & 25 February 1932.

time alchemists', while also conjuring up the modern romance and mystery of 'silent white-coated men' working behind locked doors and blacked out windows. Galditz summarised for the reporter his theory of 'emanations':

I believe that every body or substance emanates an impulse, which if we have delicate enough instruments to detect, can readily be discovered and located. My researches are directed to locating emanations of precious substances in base metals. ... it [is] possible for a precious metal to be contained in a base substance and yet be invisible under the strongest microscopic lens.¹⁵

Unable to make much of this, the reporter devoted his energies to digging up information on the New Process Company, noting that its prominent backers preferred to remain incognito. The article is fairly upbeat in its account, conveying Gladitz's own enthusiasm and confidence, but it notes that so far the only beneficiary of the scheme was Ascension Island, which had found a market for some 2,000 tons of lava at £1 per ton.

A further article appeared some three weeks later based on a prospectus issued by Gladitz in the hope of raising further working capital. The newspaper took the opportunity of submitting the claims to five metallurgical experts, including one who had been given a guided tour of the Southall premises, and who may have been the author of the unsigned report of December 1931. There was not enough detail in Gladitz's prospectus to enable the experts to nail the flaw in his theory, but they dismissed the whole thing as utterly implausible and contrary to the findings of the whole scientific community. This left it open for Gladitz to reply that the whole scientific community might be wrong.

Fifty years ago, if you had said that you had a machine which would enable a man coughing in London to be heard in New York, people would have said you were mad. It is the same with my process. To-day the experts say it cannot be done. Soon they will see their mistake. ... Every day I am working on my book, which will explain in detail my atomic theory which governs my discoveries and experiments. ... I have now written 300 pages. It will total more than 1,000 pages. ... When it is published it will be open before the eyes of every one. When they read it and examine it will be the time for them to condemn me.¹⁶

He went so far as to claim the experts' findings vindicated his process: they insisted that there was no gold in lava, which showed that he could locate gold where conventional science found none.

McKenna's final letter and meeting with Gladitz came less than two months after the first *Daily Express* revelation. We don't know what was in the document referred to in the letter. McKenna said that it supported Gladitz's findings, and my guess is that McKenna had engaged the help of experts to create a hodge-podge of pseudo-scientific propositions which they knew to be false but which led to a conclusion that was apparently favourable to Gladitz's claims. Faced with this, Gladitz would be obliged either to subscribe to propositions which McKenna knew to be false, or to explain how his process differed from the one outlined in the document. Gladitz would either be unmasked as a fraud, or at least forced to reveal more about his process than he had before.

But why did McKenna decide to bring things to a head and end his relationship with Galditz at this point? He may well have grown tired of Gladitz's prevarication, but he may well have been pushed to take action by the publicity in the *Express*. So long as everything was kept under wraps McKenna risked nothing while remaining in a position to take advantage of the process should it ever come to anything. Now that the story was out there was a risk that if Gladitz's claims gained wide credence there would be chaos in the financial markets, while if, as was much more likely, the whole thing became a joke, someone might decide to follow up the references to prominent investors—it would be embarrassing if it came out that a man in his position had been taken in by a latter day alchemist.

Perhaps not surprisingly by the time of the *Express* articles the business at the Southall works was in trouble. Cunliffe-Owen had gained control of the company, and after an attempt to put its affairs in order eventually forced it into receivership in June 1934, although according to a further article in the *Express* Gladitz was still optimistically trying to raise £1m from 'three or four chaps' who had been

¹⁵ *Daily Express*, 2 February 1932.

¹⁶ *Daily Express*, 22 February 1932

involved in the earlier company.¹⁷ During the same summer of 1934 Gladitz surfaces again, this time not as a chemist but as a diviner, claiming that using photographs and a cork and needle he had located buried gold beneath the Fens – King John’s waggon train of treasure, supposed to have been lost in the Wash.¹⁸

There was some question as to the ownership of the land and buildings – what was owned by the bankrupt company and what by Gladitz himself. The sale of the property at the end of 1934 aroused suspicions, and in the new year Gladitz was charged with forging signatures on the conveyancing documents. With a characteristic show of optimism he claimed he would be vindicated, and there is certainly something odd about the whole charge, as it is hard to see how he expected to get away with it. After a preliminary hearing at Ealing police court he was remanded on bail for trial at the Old Bailey.

The day before the trial was to begin, however, he was working on an upper floor at the Southall works when he fell through an unguarded hole where a shaft was being constructed to the concrete floor below, sustaining injuries from which he died. Although the coincidence of the impending trial might have suggested suicide the evidence presented to the inquest led to a verdict of accidental death. The strongest made was that if he had wanted to kill himself he had a factory full of deadly poisons that would have given him a quicker and less distressing death. Although the accusation of forgery and the possibly suspicious circumstances of his death might lend colour to the suggestion that he was a confidence trickster, the picture of Gladitz that emerged at the inquest might lead us to a kinder view. He was a big, bumbling man, absent-minded and absorbed in his work. The handyman and the caretaker gave the inquest a poignant account of the accident, which they watched in agonizing slow-motion.

The witness [Mr John Henry Shaw, the handyman] looked up at the ceiling and there he saw Mr Gladitz jammed in a hole. He could not see the legs or head, but he could hear him breathing. He rushed out to fetch the caretaker and when they came back Mr Gladitz was nearly through the hole. By the time they ran upstairs he had fallen through on to the floor below. ... The caretaker, Mr Frank Alan Harris, said that when he arrived on the scene, Mr Gladitz was groaning and making slight movements, as though trying to extricate himself.¹⁹

Whether he was a deluded crank or a daring fraudster, Gladitz was a larger-than-life character and this was a sad end.

I think he was somewhere in between a crank and a fraud. Despite his insistence on secrecy I see him as an exhibitionist and self-dramatist, acting the part of the great scientist absorbed in his studies, while revelling in his coded telegrams to the greatest financiers of his age, firing off letters to the governments in London and Washington, telling the *Daily Express* that his discovery was to be used not for private gain but to repay the national debt and bring down the income tax. The best that can be said for him is that he was a visionary and idealist who was so enthusiastic about his discovery that he was prepared to bend the truth in order to sustain his own and his collaborators’ faith in the process.

In contrast to Gladitz, who remains a shadowy figure, a great deal is known about Reginald McKenna. In fact a full-scale biography has recently appeared. He was not only the leading figure in the London banking world – he had been a prominent member of Asquith’s government. After spells at the Treasury, Board of Education and admiralty, he was Home Secretary at the outbreak of war – in which capacity he must have signed Gladitz’s internment order. In 1915 he became Chancellor of the Exchequer in the coalition government, holding the post for two budgets before leaving the government with Asquith in 1916. Among Asquithian Liberals he was considered a potential prime minister, but in 1919 he abandoned politics to become chairman of the Midland Bank. With his long political experience, his views on banking and finance were highly influential. He served on the Macmillan Committee of leading economists set up after the great crash of 1929 to advise the Labour government on the future of finance and industry.

¹⁷ *Daily Express*, 8 June 1934.

¹⁸ *Evening Post*, Wellington, New Zealand, 8 September 1934, reproducing a report from the *News Chronicle* of a Chancery case (*Ponsonby v Boone*).

¹⁹ *West Middlesex Gazette*, 16 March 1935

On 9 September 1931, after the fall of the Labour government and when it appeared that the measures taken by the National government to save the gold reserves might not work, McKenna wrote his most remarkable letter to Gladitz:

It is a long time since I have visited you, but I have felt that there was no reason for taking up your time and that I would wait until you could report that all your difficulties were surmounted.

Now however that the business of the world is rapidly going from bad to worse, I am moved to write to you. The main cause of the disastrous fall in prices is the misuse of gold by the creditor countries who, so far as I can judge, can only be brought to reason by the development of a new supply on a large scale. It is of the greatest importance to me as a banker to know if we are within measurable distance of obtaining such a supply, and you would be doing me a great favour if you could give me some definite information on the subject.

If possible, what I should be very glad to know is this. Suppose you take 100 kilos of raw material and treat it with your present plant, using the system of extraction so far as it is developed today. How much gold can you extract from it and how long will it take you to get this amount? If I had a solid basis of proved fact like this to work upon I could form a useful opinion about the future.²⁰

According to my original view of things this was just another of McKenna's attempts to prod Gladitz into giving more details of his process. I found it incredible that one of the leading financial experts charged with bringing the economy back from the disaster of 1929 was seriously thinking that the country, and indeed the whole international financial system, might be saved by a mysterious process for extracting unlimited supplies of gold from volcanic lava.

It turns out that I was wrong. Here we come to the other source I referred to at the beginning which gives us a direct insight into McKenna's attitude at the time.

One of McKenna's friends and a fellow member of the Macmillan committee was the economist John Maynard Keynes. Among Keynes's papers at his death in 1946 was a sealed packet dated April 1930, marked 'Not to be opened – New Process' and bearing the instruction that it was to given to McKenna. Since McKenna died before Keynes (in 1943) the packet remained unopened until 1979, when its contents were included in volume 20 of Keynes's collected papers.

The packet contained Keynes's account of what McKenna told him, under promise of complete secrecy, about the Gladitz affair. Keynes and McKenna were agreed that the greatest danger facing the world was the hoarding of gold by the creditor nations (in particular France and USA) and the failure to invest in the moribund world economy. McKenna asked Keynes how much gold would be needed 'to put right the monetary management of the world' and Keynes replied that it would take a lump sum of £200m with £40m per annum thereafter.²¹ (To us these sums sound like small change, but in 1930 they were, to use our modern cliché, 'eye-watering' amounts.) It's clear from Keynes's account that at this stage (June 1930) McKenna believed Gladitz when he said that commercial application of the process had proved feasible and that he would be able to produce unlimited quantities of gold at 1/- per ounce. (The exchange rate for gold at that time was £3.17.10½ per ounce, although gold on the open market cost even more.)

Keynes supplements the information in the letters. For example, he tells us how McKenna came into contact with Gladitz in the first place. It was through Hugo Cunliffe-Owen, whom Keynes rather contemptuously describes as a 'speculative sort of fellow'. Cunliffe-Owen got wind of it all through overhearing 'an incautious lady' talking about a new gold process. This fills in a missing detail, but doesn't help us decide on the fundamental question of Gladitz's honesty. If we want to make out the case that he was a confidence-trickster we might wonder whether the incautious lady was planted by him with a view to hooking a speculative fellow.

²⁰ Document 37

²¹ The total world output of gold in 1931 was £90m. The world total of monetary gold rose between 1929-1931 by £228m, but this was not evenly spread. The holdings of five nations (France, USA, Switzerland, Belgium and Holland) rose by 46.6% during the period, while those of the rest of the world fell by 31.1%. (Annual Report of the Union Corporation, reported in the *Daily Express*, 12 April 1932)

The letters in the file show that during the first few months of 1930 McKenna was in frequent contact with Gladitz, but unfortunately the important communications appear to have been by telephone or face-to-face. It is only from Keynes's account that we learn that at that stage Gladitz was claiming to be producing gold at the rate of £300 per day, that McKenna had sold a small amount of the product to the Bank of England and that the expected level of production was £10m by the end of 1930 and thereafter £30m or more per annum. Keynes records that his friend Reggie was 'greatly excited' by the prospect. When Keynes suggested that perhaps Gladitz was mixing in the gold that he claimed to be extracting, McKenna replied that Gladitz could not have put his hand on enough gold to maintain even his current level of production, and anyway had no financial motive for the deception (Keynes underlined the word *financial*, aware that there were other possible motives for fraud). We know from the letters, however, that Gladitz had a bar of gold valued at £5000 on deposit at the Midland Bank, which he used, he said, for purposes of comparison.²² It might have been possible for him to remove from this bar enough gold to provide McKenna with the small quantity to sell to the Bank of England. And as for there being no financial motive for deception, we have to remember the large amount of capital (estimated by the *Express* at about £100,000) that had been invested by McKenna and Cunliffe-Owen and others in the New Process Company. They had only Gladitz's word that it was being spent on the gold extraction process; it could have been used to finance the ordinary business of the company, or indeed it was perhaps siphoned off into Gladitz's personal account or even sent to Germany. Considerations such as these may have dampened Reggie's enthusiasm during the eighteen months of frustration and prevarication between his optimistic conversations with Keynes and his letter of September 1931, when he pressed Gladitz to put a definite figure to his claims.

Whether or not Keynes saw through his friend's optimism, he was prepared to suspend his disbelief and give his mind to the possibility that the story was true. Unless Gladitz's thousand page book comes to light, Keynes's summary of what McKenna told him (he admits that neither of them understood what they were talking about) is the nearest we'll get to knowing the theory behind the new process.

In the core of the earth all the elements are present together in minute particles. Thus one would expect lava to have a high metal content. As a matter of fact lava yields to the ordinary analyst practically nothing but carbon. This must be due, the inventor conceived, to the metals being dispersed into minute quantities, which he called (I think) 'telamons', each particle being encased with a coating of carbon through which ordinary chemical analysis could not pierce. His idea was that by reversing the process the telamons could be released and brought to the surface; that is to say, just as the lava has been slowly cooled down from a great heat, so he would slowly heat it up again to its original temperature.

The experiment was performed and on a minute laboratory scale it appeared to be successful. The powdered lava was reformed into what on being re-cooled became a black vitreous stick very thinly coated with various metals, particularly gold, platinum and iridium, of which the gold could be isolated very easily by ordinary processes, each stick (about half the size of a stick of sealing-wax) having about 3/- worth of gold on it.

Reggie apparently kept some of the sticks in his cigar drawer, and (according to Keynes's editor) his son recalled the 'gold sticks' from those days. Keynes notes that the process was one of extraction, which was less incredible than one that purported to create synthetic gold. Still, his immediate reaction was sceptical, until he remembered that he had himself looked forward in his *Tract on Monetary Reform* (1923) to a time when 'the genius of a chemist may realise past dreams and forgotten hoaxes, transforming base into precious like Subtle or extracting gold from seawater as in the Bubble.' Part of what makes the story seem far-fetched to us is the fact that Gladitz was an elderly self-taught man working alone in a small factory in Southall. For us science tends to belong to great institutions and vastly expensive laboratories, but those days were closer to the age of the lone genius in his back shed. Furthermore, the non-scientific public in those days was growing accustomed to yesterday's impossibility becoming the commonplace of today. As Gladitz said to sceptical journalists, who would have thought a few decades ago that it would be possible to hear a man coughing from the other side of the world? Indeed, a decade later one of the world's great laboratories was to achieve

²² Document 31; this is dated 17 March 1931, but there is no reason to suppose that Gladitz did not have access to this gold bar during the previous year.

something which was sold to the press as the realisation of the alchemists' dream, when mercury was turned into a minute quantity of gold in the Harvard University cyclotron.²³

Having allowed that the story could be true, Keynes's first thought was that a source of unlimited gold would finally put paid to the gold standard (as a long-standing opponent of the gold standard he enjoyed a moment's *schadenfreude*), and would operate in Britain's interest because Britain's debt to USA was payable in gold (as were German reparations) whereas Britain's loans to the rest of the world were repayable in sterling. His second thought was that Britain could hardly insist on repaying its debt in gold if gold had become utterly worthless. It would be better to release the new gold only gradually, just as though (as he put it) a rich mine had been discovered on Horseguards Parade. It would enable London to manage the international financial system, while keeping Paris and Washington happy with payments in gold on demand. He agreed with McKenna that secrecy was essential. 'Once the secret was out,' he wrote, 'the gold standard would be doomed and – the fat would be in the fire.'

McKenna had a plan for dispersing the new gold first through the Midland Bank and then through the Bank of England. But eventually the government would have to be involved, and he proposed to offer a deal to the Treasury, that they should buy the first £150m worth of gold produced by the process, and thereafter would receive all further product free. (He didn't subscribe to Gladitz's proclaimed determination that the process should not be exploited to enrich individual investors.) This would give the Bank of England a concealed reserve of gold which would enable them to dominate the international gold market. To induce the Treasury to accept his terms McKenna was prepared to threaten to take the deal to the Americans if the British turned it down. Keynes was shocked at this attitude, and it may well be because he thought it discreditable to his friend that he didn't want the story to be published in McKenna's lifetime. We don't know whether McKenna had discussed this move with Gladitz; if so he may have regretted it, and it could have had something to do with his decision to break with him after the articles in the *Express*, since one of them had quoted from a letter which Gladitz caused a friend to write in July 1931 offering the secret to President Hoover.

McKenna, as a substantial shareholder in the New Process Company, was naturally interested in the potential profits that would accrue if Gladitz's dream came true. Keynes (although McKenna had given him a small share-holding) was more interested in the wider implications. 'Consider the chaos,' he wrote, 'which would follow on sudden or premature disclosure.' Since secrecy would not be possible for long it gave added urgency to the need for a functioning international bank. 'Plans must be completed for the substitution of an international managed currency before the gaff is blown.' But, he wrote –

Is it all true? Is it the greatest hoax in the world? God knows. But I keep my mind open to the possibility of its being at least a part of what it pretends to be.

It will be a wonderful last chapter to the long history of gold's dominion over our greedy minds. I look forward with every emotion of satisfaction to the prospect that the world may be forced in my lifetime to the substitution of a scientific control of the lever which works the balancing factor in our economic life.

²³ The experiment (by Kenneth Bainbridge and Rubby Sherr) is described in the journal *Science* vol 93, no 2419, May 9, 1941. Their particles of gold disappeared within hours.