demand that could not be met. Fleming, however, talked about Lambert with his colleagues at St. Mary's, and someone there who did not share Florey's wariness of publicity alerted the *Times*, which on August 31 printed this letter:

Sir,—In the leading article on penicillin in your issue yesterday you refrained from putting the laurel wreath for this discovery round anybody's brow. I would, with your permission, supplement your article by pointing out that, on the principle of *pulman qui meruit ferat* [honor to one who earns it], it should be decreed to Professor Alexander Fleming of this research laboratory. For he is the discoverer of penicillin and was the author also of the original suggestion that this substance might prove to have important applications in medicine.

I am, Sir, yours faithfully,

Almroth E. Wright
Inoculation Department, St. Mary's Hospital, Paddington, W.2, Aug. 28

It is ironic that Wright, who fought with Fleming over his insistence to include the phrase “this substance might prove to have important applications in medicine” in his 1929 paper, now lauded his foresight, but it also is easy to understand why he did. St. Mary's relied on donors for its support, and something as remarkable as penicillin would mean bigger donations if the hospital claimed its place in the drug's development.

Reporters flocked to St. Mary's to interview Fleming, and several stories appeared over the next couple of days. The one in the September 1 *Daily Mail* began:

Experiments in a laboratory at St. Mary's Hospital, Paddington, are being made with a substance called penicillin, which may become the most valuable drug of the war and one of the most important medical discoveries of all time...
come. I think it will soon be possible to produce it on a commercial scale."

There was a critical error in the story: The experiments were not being done at St. Mary's by Fleming; they were being done in Oxford by Florey and his team.

The headlines in the papers were sensational: "Miracle from Mouldy Cheese"; "Fungus May Fight the Germs"; "New Drug Will Check Infection from Wounds"; "Professor's Great Cure Discovery"; and in the Glasgow Herald, "Scottish Professor's Discovery." None of the stories mentioned Florey, but one did mention "research chemists in Oxford."

Then on September 1 came another letter in the Times:

Sir,—Now that Sir Almroth Wright has so rightly drawn attention to the fact that penicillin was discovered by Professor Alexander Fleming and has crowned him with a laurel wreath, a bouquet at least, and a handsome one, should be presented to Professor H. W. Florey, of the School of Pathology of this university. Toxic substances are produced by the mould alongside penicillin and Florey was the first to separate "therapeutic penicillin" and to demonstrate its value clinically. He and his team of collaborators, assisted by the Medical Research Council, have shown that penicillin is a practical proposition.

I am, Sir, your obedient servant,
R[obert] Robinson

Dyson Perrins Laboratory, Oxford University, August 31

This time newspapermen rushed to Oxford, but there was not the open welcome they received at St. Mary's. Florey, horrified by the prospect that publicity would raise the hopes of thousands of patients who might benefit from penicillin when, in fact, it would be years before there was enough to give any of them, refused to meet the reporters and had his secretary send them away with the hint that if they returned the following Thursday, he "may give them ten minutes."

In an ideal world this was the right decision. By all the standards of science at the time it was the right decision. By the standards of Fleet Street, however, it is hard to imagine a worse one. Given the choice of writing about an unprepossessing Scotsman who willingly received the press or about an unavailable and apparently ill-tempered Australian and his Continental cohort, the gentlemen of the press did not hesitate to decide.

At first, Fleming appeared to do his best to distance himself from the commotion. On September 2, he wrote Florey:

I was very glad to see Robinson's letter in the Times this morning. Although my work started you off on the penicillin hunt it is you who have made it a practical proposition and it is good that you should get the credit.

You are lucky in Oxford to be out of range of the reporters. They are a persistent lot and I have not been able to dodge them completely. I do not know whether you saw the Daily Mail yesterday. They started the day before by ringing up Sir Almroth and asking him to write an article for them. They were told we did not want any further publicity. An hour after a reporter arrived to see me and was told I was out. Late in the afternoon this same reporter got me on the telephone and asked me whether anybody in this country was going to manufacture penicillin. I said "yes." Then she asked when it was likely to be available and I said "good knows." The result was that in the paper it was reported that I said it would be produced in quantity in a short time. I think we successfully choked off all the others including the B.B.C.

The man Lambert is very well and will be going home very soon. I am writing up a full report from which you will be able to extract what you want for your paper. I am glad you are going to publish your results soon as it may further stimulate the manufacturers.

If you are in London I should like very much to see you as a certain thing has happened which may have an important bearing on the large scale production. I do not want to do anything without consulting you.

Meanwhile, the barrage of stories about Fleming continued. On Saturday, September 5, the Neues Chronicle offered a profile of Fleming as their "Man of the Week."

A man almost unknown by the general public; a tall, slim, grey-haired, blue-eyed man, working in the reek of drugs; a man whose personal
modesty is so great that he refuses to sit for a picture or even to publish his age in works of reference: that is Alexander Fleming, on whose brow Sir Almroth Wright has, in his own words, “placed the laurel” for the discovery of Penicillin, the new wonder-drug.

Up at Oxford, in the Sir William Dunn School of Pathology, a little band of scientists, numbering several nationalities, are working day in and day out, to produce this substance in quantity.

It had taken the popular press less than a week to effectively decide who would receive the credit for penicillin. Fleming was tall [only in his newfound stature; he was still just over five-foot-five], slim, grey-haired, blue-eyed, and modest. Florey, Chain, and Heatley were anonymous members of a little band of foreigners.

On September 7, Fleming again wrote to Florey:

You cannot deplore the personal element which has crept into penicillin more than I do and for the moment I am the sufferer. I was out... all last Friday and when I got back in the late afternoon Wright told me that he had been rung up by some weekly review that he had never heard of. On Saturday morning when I arrived in the lab I found the News Chronicle planted on my bench. I hated it and have been suffering since. The photograph looks as if I was really suffering—where it came from I have no idea but it is not one I myself would have chosen.

The Illustrated London News rang up last week and said they were publishing an article on penicillin. I was told this had been carefully prepared from our published articles and there was none of the daily press ballyhoo. They wanted a photograph of myself which was refused but I gave them some mould cultures to illustrate the article as this seemed on a higher plane than the daily papers. It would be better if it were impersonal but after the letters in the Times it is likely that we will be mentioned. [In the article, Fleming mentions “the Oxford group.”]

I do hope that the people who matter (the others do not count) do not think that we are in opposition. I will certainly do what I can to dispel the idea that it exists. As you say our contributions are perfectly clear cut and complementary and no one can accuse me of ever having said that my work was not acknowledged.

The only thing that pleases me is that the advances in this direction have been independent of professional mycologists.

When you were talking to me about large scale production of penicillin you said that this was a thing which one of the ministries ought to take up as a war measure. It is in this connexion [sic] that I want to see you.

As penicillin’s success became more evident, the greater the acclaim heaped on Fleming. Florey, Chain, Heatley, and others at Oxford remained invisible and unannounced to the public, and for years they watched with dismay as credit accrued at St. Mary’s but little came to the Dunn School. Yet Florey could do nothing to counteract this imbalance; besides his distaste for publicity, there was his concern that stories about penicillin would lead to a demand that could not be filled. Plus there was the general prohibition in Britain against doctors’ using their discoveries for personal advancement.

Fleming made a separate peace with these issues. From the day that Wright’s letter appeared in the Times, he was almost constantly available for interviews. In fairness, it must be said that he did not make claims beyond the work he actually did, and many times he mentioned the work done by the Oxford group and others. In fairness it also must be said that having done that, Fleming did not try to correct the record when reporters gave him more credit than he deserved. Fleming kept a scrapbook he wryly labeled “Fleming Myth,” which he filled with the scores of articles that appeared. He “positively enjoyed” the greatest inaccuracies, “an attitude” his biographer Gwyn Macfarlane suggests was “perhaps characteristic of his peculiar sense of humor.” According to Macfarlane, Fleming viewed even the most preposterous stories with “amused detachment.”

The misinformation and exaggerations were repeated for decades and reached either an apex or a nadir in Alexander Fleming and Penicillin (1974) by W. Howard Hughes. Hughes, a bacteriologist at St. Mary’s from 1936 until 1970, and who therefore ought to have known better, claimed that St. Mary’s grew larger amounts of mold than Oxford (in fact they grew none at all), and that “our technicians had been making it every week since its discovery.” The broth, he added,
was sent in “large churns” to Oxford, where it was turned into penicillin. According to Hughes (who appears to have written in the fog of myth rather than act with malice), it was at St. Mary’s that the drug saved the first patient—an unnamed police sergeant who seems based on Albert Alexander, the Oxford policeman treated by Florey in 1942, who, in actuality, died from an insufficient supply of penicillin.

Nor did anyone at St. Mary’s step forward to correct the ever-growing record of misattributions repeated so often that they became gospel. It is easy to see why. Chain later said with some amusement, “The British hospitals were struggling for their pennies...then here, suddenly, was a pot of gold for St. Mary’s. It was an opportunity to be grasped—and if I had been the manager of the hospital, I might have done the same.”

Two of St. Mary’s most dedicated backers, Almroth Wright and Fleming’s old acting partner Lord Moran—who now was Winston Churchill’s personal physician and not incidentally the former dean of St. Mary’s Medical School—were well connected to the press and, in Wright’s case especially, not shy when it came to self-promotion. Fleming and St. Mary’s certainly deserved some of the credit for penicillin. If Florey wasn’t going to stake a claim for the remainder, they were happy to fill the void.

The British medical historian David Wilson has pointed out, “Florey, well known in academic circles as a tough bargainer when it came to fighting for research funds, allowed the credit...to slip away through his disdainful treatment of the media. The Oxford team can hardly grumble because the press did not print stories that were not made available to them.”

This is correct to a point. The problem was, the rules of British science and Florey’s sense of appropriate behavior demanded constraint on seeking public attention. However wronged he felt, no part of his character would allow him to call a press conference and point out the achievements of his group. He did, however, try to correct the record. On several occasions Florey privately aired his grievances to those he felt could legitimately plead his case: Mellanby at the MRC and Henry Dale at the Royal Society. Both counseled silent patience.

Florey abided by this stricture and played by the rules, and he resented that others did not. It drove him wild that Fleming basked in the spotlight shone on him by his supporters, and that they were not criticized for grasping more than their due. It was one thing to stay in the shadows when everyone else did; but Florey and his Oxford colleagues felt that if credit was to be given, it should be given to all.

So work at Oxford continued out of public view. In mid-September 1942, two hundred gallons of penicillin broth were sent to Oxford from Kemball, Bishop in milk cans that were acquired for them through the Ministry of Supply. For the next year, there were shipments of 150 gallons to Oxford every ten days. The contributions from Kemball, Bishop and ICI were sufficient to manufacture much of the penicillin for the 187 cases treated by Ethel in 1942 and 1943.

Fleming, too, wanted increased production of penicillin, and he provided some of the impetus for organizing government involvement in its manufacture. After being quiet about penicillin for ten years, now that it was a success, he was suddenly a leading proponent. Shortly before Lambert was discharged from the hospital on September 9, Fleming called his friend Sir Andrew Duncan, the Minister of Supply, to impress on him how valuable penicillin could be. Duncan in turn spoke with Sir Cecil Weir, the director general of Stores and Equipment and therefore the person in charge of medical supplies. (This effort was the “certain thing...which may have an important bearing on the large scale production,” Fleming mentioned in his letter of September 2.) On September 25, Weir chaired a meeting attended by, among others, Fleming, Florey, and representatives of ICI and the Therapeutic Research Corporation (TRC), a wartime research alliance of five of the largest British major pharmaceutical firms—Boots, British Drug Houses, Glaxo Laboratories, May and Baker, and the Welcome Foundation; the TRC also shared information with the U.S. Office of Scientific Research and Development and its Committee on Medical Research and Development.

According to the minutes of the meeting, Florey had clear complaints. It was well and good that these firms were sharing information, but he was now out of the information loop. He had given the American companies all the information on penicillin his team had