

## Leo Szilard

*A Memoir—By EDWARD SHILS*

TOWARDS THE END of August 1945, I received a telephone call from Leo Szilard. He had heard that I had been at work on a scheme for the international control of atomic energy, and we must meet. Very shortly thereafter, he came to my room. He was short and plump; he had a large head, a high, broad, somewhat sloping brow, and small, fine, neatly curving features. His hair, dark and combed back, had a broad grey streak running almost from the centre of his forehead, and surmounted a ruddy face. It was the face of a benign, sad, gentle, mischievous cherub. The whole formed a picture of unresting sensitivity and intelligence, immensely energetic and controlled, and yet with great ease and gentleness of manner. He had sparkling eyes, a beautiful melancholic twinkle of a smile, and spoke in a low musical voice, which had a slight touch of a sob in it. He came right to the point. He glanced briefly at my draft of a rather complicated and utopian scheme which involved a universal labour market for scientists, detailed inspection, comprehensive aerial photography of the United States and the Soviet Union (and any other country which might become relevant), and the dissolution of all secrecy. (I later learned that my

scheme was of a child-like simplicity compared with that which Szilard had been developing.) All he said was that we were thinking along the same lines and that we must "remain in touch." He then departed. The next day he telephoned again to say that he had spoken with Mr. Robert Hutchins, then Chancellor of the University of Chicago, who said that he shared our views.

Szilard came to see me almost at once—he had to come to me because his rooms were inaccessible to me; he was still an employee of the Metallurgical Laboratory, which was the name for the Chicago part of the "Manhattan Project." But even if his rooms had been accessible, he would have come to me despite the heat, the distance, and his eminence, since that was the way he was. He was always ready to inconvenience himself for whatever important cause he had in mind at the moment. He never engaged in unimportant ones—and he never claimed the precedence of age or distinction, although he was always willing to grant them to others.

In those days, conferences and seminars were just beginning to be the thing. We decided with Mr. Hutchins' support that we must have a conference at the University of Chicago to discuss international control. In the days which followed, we met frequently to work out plans for the conference. We always met in the Social Science Research Building, and he always came on foot. From my window, I could see him approaching, roly-poly; he walked smoothly and rapidly, the swift and regular agitation of his legs contrasting with the serenity of his bearing.

He liked me to meet him at all hours and would often prevail upon me to go out walking with him. Sometimes we went to his room in the flat of Professor Paul Weiss. It was a large room with bookshelves to the ceiling. They were bare. He had no physical property other than his clothing. He pressed me to rack my brain to think of persons of my acquaintance who had "inventive minds" or who might have valuable political connections and whom we might invite to our discussion. By the time our conference was held, Szilard no longer had any immediate interest in continuing on the path which had originally brought us together.

Like our more optimistic associates of that

*In the '30s Leo Szilard first suggested to Rutherford and to Einstein the possibilities of a nuclear weapon, and he went on to prove it by his experiments (with Fermi) on uranium chain-reactions. In the first year of the war he helped to persuade President Roosevelt by the famous "Einstein-Szilard letter" to initiate the Manhattan Project. In the last year of the war he tried, with the "Szilard Petition", signed by many nuclear scientists, to convince the generals (and President Truman) not to use the atomic bomb against Japan. Since that time—until his death at the age of 66 earlier this year—he continued to generate original and bold scientific and political ideas: as someone said, "the father of the atomic bomb trying to father atomic peace..."*

*The author of this memoir is Professor of Social Thought and Sociology at the University of Chicago, and a Fellow of King's College, Cambridge.*

time, I thought that if we began with something very specific, centred on the new-born bomb, we could then go on to more general disarmament. He insisted that we must start with a more comprehensive settlement of the outstanding differences between the U.S. and the U.S.S.R. Without that, no progress could be made towards disarmament or the control of nuclear weapons. He argued against my view, but he never seemed to be criticising; as always, he was suggesting something positive. His own views were often dazzlingly unrealistic, but they were never mere criticisms of what anyone else was doing: they were rationally, meticulously, and ingeniously elaborated efforts to find something superior. This was characteristic of his procedure. He was always quick to generate new ideas, he seldom embraced the ideas of others, and he would very often discard his own ideas for something new and of his own invention which he thought better. I was told that in the Metallurgical Laboratory, he exasperated and even affronted certain persons whom he had inspired with important ideas in which, by the time the inspired persons had brought them to fulfilment and reported with gratification their results to Szilard, he had lost all interest.

AT OUR SESSIONS, which ran over a week and which were filled with eminent scientists, high civil servants, distinguished economists and political scientists, Szilard took no great interest in what anyone else said. But when we were not in session, he spent much of the time exploring leads to Washington. His mind was already on the next stages of the campaign, the renewal on a larger scale of the political campaign which he had set in motion within the Project in the form of the "Committee on Social and Political Implications." That campaign had broken against the unsympathetic and unimaginative single-mindedness of Secretary of State Byrnes. Now that he was free, he would pass into that "open conspiracy," the promulgation of which had drawn him to H. G. Wells.

As soon as the conference was over, he went off to Washington with Dr. Edward Condon. I had given him a few introductions and suggested a few names; he soon used these up and went far beyond them. He was conducting a largely one-man battle, in touch with Professor Urey, Dr. Condon, and other of his scientific friends. On occasion, he met with the younger scientists, like John Simpson and David Hill, encouraging them, picking up a scrap of gossip from them, and not telling them much of what he was doing. Meanwhile, the May-Johnson Bill, which had been drafted within the War

Department for the post-war organisation of nuclear research and development, moved into the forefront of public attention. Szilard bore down on it. He made the rounds in Washington, trying to arouse the concern of Senators and Congressmen, State Department officials, and the grave and foolish ladies who ran salons frequented by the higher officials. He testified before the Congressional Committee which was holding hearings on the May-Johnson Bill, and he spoke against it so persistently, so reasonably, so unyieldingly, that he bewildered and angered the Congressmen who interrogated him. Though I heard from him frequently, I did not see him again until the end of October or early November, when we had another conference, this time in Rye, New York. To this conference we invited more journalists and legislators, and fewer scientists and academic social scientists. For Szilard, this conference was part of his search for collaborators for his campaign. He was exerting a tremendous effort in trying to marshal new allies while trying to keep any of the old ones from getting out of his hands. I remember going to his suite in the building where we were staying. He was simultaneously on two separate long-distance calls on telephones in two rooms, going back and forth, putting down the receiver in one room while he went to take up the conversation in the other. All the while, actual and potential collaborators sat about; they were not let in on the substance of the telephone conversations which were about the very issues being talked about in the rooms.

AFTER THIS he again disappeared into Washington, and it was some time before we saw him again in Chicago. In the meantime, the "scientists' movement," the Federation of Atomic Scientists and then the Federation of American Scientists, got under way. The Emergency Committee came into existence. The *Bulletin of the Atomic Scientists* was founded by Hyman Goldsmith and Eugene Rabinowitch. Szilard occasionally surfaced—sometimes only by telephone—at meetings of one or another of these groups, gave lots of advice, complex, daring, fantastic, and popped out again. When he came back he brought news of the battle and of the great figures and the lesser organisations. He identified himself with none of them. He was a kindly, solicitous, detached, and lone "operator." His opinions were cherished by scientists. Szilard never gave his information with any air of reporting about the great to the small: the lords of creation had no more charm for him than an obscure and responsive research student. With the exception of Albert Einstein and James Franck, he seemed to treat everyone as an equal—although even with Franck, he

permitted himself the liberty of mixing jokes with affection. He was polite, universally indulgent (except about the State Department), succinctly critical whenever he felt he ought to be. When the campaign against the May-Johnson Bill seemed to be assured of victory, he began to appear more frequently in Chicago. The MacMahon Bill—which was to guarantee civilian control of atomic energy and leave the way open for freedom of research and international co-operation—was in part his creation. Together with Byron Miller, a government lawyer, and Edward Levi, then Professor of Law at Chicago, Szilard devoted many hours to the drafting of the bill and on occasion showed great patience with details.

Once the domestic legislation was out of the way, he returned to international problems which had engaged him since before the war. They never again moved very far from the centre of his attention. When he was not concerned with bringing about a *détente* between the United States and the Soviet Union, he thought about the new states of Asia and Africa. He had ideas about elections like those of Jayaprakash Narayan and Marshal Ayub Khan, and for a time he persisted in the attempt to persuade me to organise a long-term study group to deal with the problem of new states. By the time I succeeded with my colleagues in organising something like that, he had moved the matter to one side of his mind. Before doing so, however, he did make a substantial contribution to the development of oral contraceptives, since he was convinced that only the slowing down of the rate of population growth in the new states would provide the conditions for their progress, and their peaceful assimilation into the world community. But throughout the late forties and the fifties, his mind was busily engaged on the problems aggravated by nuclear weapons. He was full of contrivances. The Pugwash meetings were the realisation of his idea of meetings of Soviet and Western scientists which had been on his mind since 1945 and which he had put forward in the postscript of his "Letter to Stalin." (On one occasion when we discussed this, he insisted that if such a meeting were to come off, then the Russians must argue the American case, the Americans the Russian case.)

BY THE EARLY FIFTIES, he had again taken up scientific research. He was through with physics. He thought there was nothing interesting to do in nuclear physics; it was just a matter of getting larger and larger machines, but fundamentally the process of discovery was simply a repetition of what had been done before. He began to work in what is now called molecular biology.

I tried several times to get him to settle down academically, and since he was full of brilliant notions about many of the matters with which sociologists, political scientists, and economists were concerned, I persuaded my colleagues to bring him into our Division of the University. He was to be appointed to a professorship in the Social Sciences, so that he could devote his attention officially and academically to the political and social aspects of science. It fell through because with the same playfully serious ingenuity which he manifested in his schemes for the dispersal of the urban population or for the "trading of cities" and in his system for changing the Polish-German frontier and rendering Germany an integral part of a European community, he devised such complicated conditions regarding the ways in which the different Divisions would contribute to his salary that the arrangement became impossible. I think that the real reason for this obstruction lay in his anxiety that he would be tied down too much to the University and would be less able to move about the country—especially to New York—than he had been.

In New York he spent a lot of time in a delicatessen frequented by Central European refugees on upper Broadway, somewhere in the region now known as "the Upper West Side kibbutz." I occasionally met him there and he was very insistent that I should have certain Eastern and Central European delicacies, which he praised in the disinterested and precise way in which he spoke of everything.

In New York at that time he thought that he had found a patron for his political activities in a businessman who gave him a desk in his office. (It turned out to be fruitless.) He used to spend time with his aged father, a Hungarian engineer, with his nephew, whom he regarded with great affection, and with a lady, Dr. Gertrud Weiss, who later became his wife. I do not have the impression that during this time he was very active in promoting his political causes. He was writing and thinking, and occasionally he would send in some startling article to the *Bulletin of the Atomic Scientists* or a story of the type which later appeared in his book *The Voice of the Dolphins*.

He would come back for long stretches of time to Chicago, where he lived ascetically, with peculiar self-indulgences such as meals of French-fried onion rings, a speciality of a horrible restaurant frequented by students. A great favourite for lunch was a glass of buttermilk into which he poured the entire contents of the sugar bowl, followed by sherbet. If one lunched with him, he might be silent for a long time and then come up with a scheme for improving the selection of librarians. At other

times, he would be after me to leave the United States and go to live in Australia or New Zealand or perhaps a small island in the Pacific, in order to be away from the dangers of nuclear warfare. He himself, nevertheless, spent his time in the cities which according to his increasingly pessimistic expectations would be the first to be destroyed by nuclear weapons.

He could be seen walking the streets with Aaron Novick (his collaborator and protégé in molecular biological research and now Professor at the University of Oregon); or he might sit long at lunch discussing some improvement of the patent law, or some improvement in the monetary system, with professors of law or economics; or else he might be seen walking along 57th Street or going into one of the little snack bars there with a young scientist. Sometimes, one saw him sitting with the saintly James Franck in one of those disagreeable places.

IN THE COURSE of the years, from Szilard and from his friends, I learned a little of his past. He had spent his youth in Budapest as a member of a youthful circle, many of the members of which later gained renown as scientists. He studied engineering at first. He once said to me, in explanation of the remarkably large number of outstanding Hungarian physicists of his generation, that it had been possible because "physics was not taught in Hungary." Towards the end of the first World War, he served as a junior cavalry officer in the Hungarian Army, but saw no action. After the war, he went to Germany, where he worked closely with Einstein, and where he habilitated as a *Privatdozent*. He interested himself in everyone's business—without intruding into their private affairs. If he visited someone else's laboratory, he might well end by offering a comprehensive plan for its rearrangement. He interested himself in everything. He was a member of a seminar for the study of economic theory, particularly mathematical economics. He read novels, too, although his taste was not very good—he told me that he liked Louis Bromfield best among contemporary novelists. I once lent him the Mr. Norris book, gave him *Prater Violet*. He never said a word about them. Bohemia did not interest him. He only liked intellectual and political unconventionality. He was, naturally enough, a great admirer of H. G. Wells. In the second half of the twenties, he went to London and visited Wells to obtain the Central European rights to the publication of translations of his writings. Wells' imagination of the future, his prediction of the atomic bomb, his belief in the centrality of science, and his ideas about the open conspiracy all attracted Szilard. Like most Central Europeans of his generation, he became a great

admirer of Great Britain. I got the impression that his liking for Britain was based on his belief that it was a country where intellectuals could talk to the great of the land as a matter of course, and could thereby influence their decisions.

In 1932, he concluded that Hitler would come to power, and as a careful reader of the financial pages, he advised his friends to transfer their funds abroad. He decided that something must be done to save German scientists and scholars after the expulsions which he saw were inevitable. He thought first of an "international university" and gave up the idea.

He went to Vienna just after the *Reichstag* fire. The first dismissals had already taken place. While walking in the street, he unexpectedly met an old Berlin acquaintance, Jacob Marschak, a man with an inventive mind, who later became famous as an econometrician at All Souls, Chicago, Yale, and California. Szilard told him that he thought that they must do something to provide for those scientists and scholars who would have to leave Germany. Together they visited Gottfried Kuhnwald, the old, hunch-backed Jewish adviser of the Christian Social Party. Kuhnwald was a mysterious and shrewd man, very Austrian, with sideburns like Franz Josef. He agreed at once that there would be a great expulsion. He said that when it happened, the French would pray for the victims, the British would organise their rescue, and the Americans would pay for it. Kuhnwald advised them to consult a certain German economist who was then in Vienna. They did so, and were told that Sir William Beveridge was also in Vienna in connection with his work on the history of prices. They were told, too, that Beveridge was staying in the Regina Hotel, where Szilard also was registered. Szilard immediately called on Beveridge and put the problem to him. Beveridge said that he had already heard of certain dismissals and had thought of appointing one of the dismissed economists to the London School of Economics. Szilard then suggested to Kuhnwald that he invite Beveridge to dine with him. Kuhnwald was reluctant to do so, because, he said, if one invited Englishmen to dinner they became "too conceited." He suggested that he invite him to tea as an alternative. So, Kuhnwald, Beveridge, and Szilard met for tea. Beveridge agreed that as soon as he got back to England and got through the most important things on his agenda, he would try to form a committee to find places for the academic victims of Nazism; and he suggested that Szilard should come to London and occasionally prod him. If he prodded him long enough and frequently enough, he would probably be able to do something. Very shortly after

Beveridge's departure, Szilard went to London. Beveridge was at once ready, and with his customary decisiveness, he set about the details of raising funds. In a relatively short time, the Academic Assistance Council was established. Szilard took a great interest in its working: he came regularly to the office to help out, provided contacts in Germany for the General-Secretary and arranged for the recruitment of Miss Esther Simpson, who remained its secretary throughout its existence.<sup>1</sup>

AFTER THE NAZIS came to power, Szilard went to London, where for some time he spent many hours of meditation and calculation in the lobby of the Strand Palace Hotel, reflecting on scientific matters and on the affairs of the world. He came into contact with Professor Lindemann, who (whatever his later conduct in the affairs studied by Sir Charles Snow) was very helpful to him—as he was to other refugee scientists. Szilard worked at Bart's and at the Clarendon, under Lindemann's sponsorship, and an effort was made to find a fellowship for him at an Oxford college, but it fell through. It was in this period that the "Szilard-Chalmers effect" was discovered. When Szilard was staying at the Strand Palace Hotel, he would occasionally wander over to the London School of Economics and listen to Harold Laski's eloquence. He liked the critical attitude which socialists took towards the injustices of the world, but he did not believe in their recipes. They were neither elegant enough nor ingenious enough. The beauties of the market mechanism were more congenial to his mind.

He was convinced that war was going to come to Europe and he had told his friends that he would settle in America a year before the outbreak of war. In January, 1937<sup>2</sup>—a little less than a year too early—he transplanted himself to the United States. He appeared at the Physics Department at Columbia, and tried

<sup>1</sup>Beveridge in his book made no reference to Szilard's role and Szilard himself, in his conversations with me, never claimed credit for it. He never received any assistance from it either, although there were times in the middle thirties when he was living on a very narrow margin. What I know about this I have learned from other persons. It was absolutely characteristic of Szilard to do a thing like this, to be so foresightful, so selfless, so inquisitive, so imaginative, so unsparing of his own energy and time, and so undemanding of benefit or acknowledgment for himself.

<sup>2</sup>It was in 1937 that he told a friend about his ideas regarding the feasibility of the atomic bomb and in the same conversation he spoke of his ideas for preserving peaches in tins in such a way that they would retain the texture and taste of the fresh fruit.

to recruit physicists there to his way of thinking. The atomic bomb had been on his mind for a long time—his appreciation of H. G. Wells and Harold Nicolson was bound up with their prevision of nuclear weapons. Now he began to work with Enrico Fermi, Herbert Anderson, and Wallace Zinn on a series of experiments to prove the possibility of a chain reaction. From the summer of 1939 onwards, he knocked at many doors to alert the Government to the significance of nuclear fission. He worried lest the Nazis might discover the possibility of the bomb and he decided that America must work on it lest the Nazis beat them to it—but he also hoped that all who worked on it might find it to be impossible.

Ever since 1939 he had been trying to get the main nuclear physicists outside Germany to agree *not* to publish the results of their research. As so often, his colleagues could not appreciate what he was after in proposing an action so contrary to the ethos of competitive publicity. He withheld his own papers on the possibility of maintaining a chain reaction in a system of graphite and uranium, but it took months of hard work to elicit an official request from the Government for him to do so. His mind moved incessantly, impelled by obsessive and prophetic anguish, and over a tremendous range. While working at his research, he worried about the possibility that the Germans might get control of the uranium supplies of the Congo. He thought of proceeding through Einstein, first to the Belgian Royal Family, and then to the State Department. He began to be convinced that a direct approach to the White House was necessary to gain support for the research. He was now working closely with his old friend, Professor Eugene Wigner, now a Nobel laureate. Through another old friend, a refugee economic journalist, he went to Dr. Alexander Sachs, a banker, who knew the President. A plan was worked out. Szilard wrote the letter, Einstein signed it, and in October 1939, Sachs read it to the President. In the memorandum accompanying the letter, Szilard reported that a chain reaction based on fission by slow neutrons seemed almost a certainty and that if the chain reaction could be maintained by fast neutrons—which was less certain—very powerful bombs might be possible.

THIS WAS the beginning—but the Government moved very slowly and under the distrustful counsel of conventional minds, civilian and military. Szilard struggled constantly against complacency, respect for protocol, red tape, and indecision. He wrote a memorandum in September 1942, entitled *What's Wrong With Us*, blaming the failure to make an im-

portant decision on the late Arthur Compton's unwillingness to be involved in controversy and on the security restrictions imposed by the Army. The judicious authors of the official history of the Manhattan District Project say that for Szilard, "the new and unusual held no cause for hesitation."

The work went on with disappointments and triumphs. From September 1942 onward, Szilard was insisting among his friends on the Project that they pay more attention to the political problems to which their work was bound to lead. In January 1944 he wrote to Dr. Vannevar Bush urging him to intensify the work on the bomb because unless nuclear weapons were used in the present war, the peoples of the world would not understand their cataclysmic power and so would not be willing to make the sacrifices required for international control. In March 1945, he wrote a long paper arguing that the vulnerability of the United States to nuclear attack rendered it necessary for them to seek international control. He argued that the United States Government should raise the matter with the Soviet leaders immediately after it had demonstrated the effectiveness of the bomb. He assumed no aggressive intentions on the part of the Soviet Government in the post-war situation but regarded a dangerous armaments race as inevitable if no system of international control were established.

Again he persuaded Einstein to present his views to the President, as he had done five-and-a-half years before, but this time there was no response. In May 1945, Szilard and Professor Bartky, the Chicago astronomer, went to the White House, but the President's secretary would not give them an audience with the President. Instead, he sent them, together with Professor Urey, to James Byrnes, who was about to become Secretary of State. Szilard handed Byrnes the memorandum he had sent to Roosevelt. The interview went badly; Byrnes had no understanding for Szilard's viewpoint or style of thought.

DURING THIS PERIOD, within the Metallurgical Laboratory an intense discussion, driven largely by Szilard but by no means entirely his creation, was going on. The Committee on Social and Political Implications was worriedly exploring the political aftermath of their work. Their worries had troubled the virtuous and conscientious Arthur Compton, who undertook to transmit their views to the Scientists' Panel of the Interim Committee. On June 11th, the Committee on Social and Political Implications completed its report. The main points were: the secret of constructing a bomb cannot be monopolised; an arms race will result; an arms race

would be disadvantageous to the United States because of its urban concentrations of population and industry. The only possible solution, the report concluded, is international control and in order not to prejudice the possibility of establishing such control, the United States should avoid alienating world opinion. For this reason Japan should be warned and the power of the bomb should be demonstrated in an uninhabited area. (The use of the bomb against Japan if the warning failed was not precluded.)

Together with Arthur Compton, James Franck took the report to Washington in person. They could not see the Secretary of War but had instead to turn the report over to a very junior assistant.

Early in July, Szilard felt that the matter could not remain where it was. He drew up a petition to the President in which he stated that the country which set the precedent for using the bomb would have "to bear the responsibility of opening the door to an era of devastation on an unimaginable scale." It would weaken the position of the United States so much that any future arguments it might make for international control would be discounted. He asked the President to forbid the use of the atomic bomb unless the terms offered to Japan for surrender had been made public and Japan refused to accept them. Sixty-nine of his colleagues signed the petition and it was sent to Washington. It was without impact. The bomb was used. It was not long after this that he sought me out.

LEO SZILARD was original and eccentric in nearly everything he did. He was original and eccentric in his Benthamite institutional contrivances, in his mode of life, in his political ideas and methods. Yet he never sought to cut a figure. Everything he did was the result of the direct confrontation of a particular situation by a powerful intelligence which shunned the commonplace, and by a warm and compassionate heart.

Leo Szilard was an affectionately solicitous and considerate busybody. He never gossiped maliciously. There was nothing vengeful about him. He was not rancorous against former Secretary Byrnes; he only felt that he was a narrow and ungenerous person, too small for the tasks which had fallen to him. He had no feelings of animosity against anyone—not even against General Leslie Groves. He had during the Manhattan Project often exasperated the General by his unceasing flood of original ideas, his interest in post-war political problems, his ownership of a number of patents for processes connected with the bomb, his criticism of the rigidity of the Army's security procedure, and by just being his own lively, playful, unbureau-

cratic self. But he never spoke angrily about Groves; on the contrary, he always spoke of the General with courtesy, but also without attempting to hide his view of the poor quality of his intelligence and imagination. He once showed me with characteristically sad amusement a copy of an unpublished interview which a *Fortune* correspondent had had with Groves, in which the General said that one of the causes of Szilard's difficult character was the fact that "he never played baseball as a youth"—in contrast with Oppenheimer, who had played tennis and therefore had (it seemed to Groves at that time) developed a more reasonable and co-operative character. Szilard's amusement was not just about General Groves but about himself, too, and the odd situation in which two such persons had to get on with each other.

There was no malice in Leo Szilard; there was some feeling of guilt about the bomb. Once, after Edward Teller had succeeded in his efforts to gain support for the construction of the hydrogen bomb, Szilard said in a sighing aside, "Now Teller will know what it is to feel guilty." This was the only time that Szilard ever expressed to me any feeling of guilt for his role in the production of the atomic bomb. Yet, repeatedly in the fantasies which he published in the *Bulletin of the Atomic Scientists* and *The Voice of the Dolphins*, one sensed that he wished that he could undo what he had done and that he could withdraw from the world which he had done so much to fashion. I had the impression, too, that this was one of the reasons why he would have nothing more to do with nuclear physics.

Michael Polanyi has said that before Einstein and Max Planck, German science had been the scene of frightful acrimony among its great figures, and this acrimony seeped downward into the lower strata of university life. These two noble geniuses changed the moral atmosphere of German science. Leo Szilard was one of the products of this new atmosphere. Although many people who came into contact with his many-sided and incessantly active mind and his gently pungent personality were exasperated by his unwillingness to be tied down to administration, by the swift flow of his imagination and by his perpetual and perhaps even slightly perverse capacity to see beyond nearly everything which anyone else or he himself had said and to think up something more subtle or more ingenious, I think that there would be universal acknowledgment among all who knew him that he was entirely free of evil spirit, of any concern at all for self-advancement, and of any pleasure in the discomfiture of others (with the possible and intermittent exception of the State Department).

He was a restless, homeless spirit. He owned no property, very few books. He had no "stake in the country" in the ordinary sense. Hotel lobbies, cafés, Jewish delicatessens, poor restaurants, and city pavements were the setting for the discussions which were his main form of communication—he said the age of books had passed. He told me some years ago in justifying his refusal to follow a regular academic career that he regarded himself as a "knight errant," who wanted to be free to go wherever important ideas in science or in the effort to protect the human race would take him. That was the way in which he had tried to live and the way in which he wished to spend his remaining years. Fortunately, the generous flexibility of the University of Chicago, the affection of his friends, and the modesty of his own needs enabled him to do so.

IN HIS LAST YEARS, together with his friend Eugene Wigner, he was awarded the *Atoms for Peace* Prize. A steady flow of manuscripts of an increasingly lucid eloquence, the activities of the "Conference of Scientists on World Affairs" (Pugwash) and his own open conspiracy which he called "The Council for a Livable World"—conducted, fittingly enough, from the Dupont-Plaza Hotel in Washington—and a renewal of his activity in molecular biology took the energy which was almost undiminished by his illness. He sought out Khrushchev in Moscow to learn his views and to expound to him his own view of the nature of a comprehensive settlement of the conflicts between the United States and the Soviet Union—and he tried to convey the results of this long conversation to President Kennedy. The genuine anguish which prompted all this action never left him, but it never clouded the rationality of his argument. After his entry into the status of Professor Emeritus at the University of Chicago, he took up an appointment at the Salk Institute in La Jolla, California, where he was full of schemes for new research. The establishment (in close association with Victor Weiskopf) of the European Molecular Biology Organisation was one of the last of his many institutional inventions.

His response to the nearly fatal cancer which he withstood with typical unwillingness to allow anyone or anything to dominate him—he decided on and supervised with success his own radiation therapy—was of a piece with the rest of his life. One almost felt that his resourceful contrariness and his unwillingness ever to accept defeat and to sink away into apathy would enable him ultimately to withstand death itself.

These are some of the impressions left on me by this extraordinarily sweet and calmly desperate genius.

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# THEATRE

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## Bait the Devil

By John Gross

“HE AFFIRMETH that Christ deserved better to dy than Barrabas and that the Iewes made a good Choise, though Barrabas were both a thief and a murtherer.” According to the notorious deposition made to the authorities by the informer Richard Baines just after Marlowe’s death, this was one instance of the poet’s “damnable Iudgment of Religion.” Baines was a shady character, and some scholars treat his report with scepticism or reserve. But there are others who accept it as authentic; and certainly to a non-specialist the blasphemous wise-cracks which it contains are expressed with a vigour and bravado which make this seem plausible. (Among other things, Marlowe is alleged to have affirmed “that Moyses was but a Jugler & that one Heriots being Sir W Raleighs man Can do more than he”; “that all the new testament is filthily written”; “that all they that love not tobacco & Boyes were fooles.”) If Baines *was* telling the truth, there could be no clearer warrant for regarding *The Jew of Malta* as a covert attack on Christianity, with Barabas as a prodigious comic villain who commands far more sympathy, and even respect, than the pious frauds ranged against him. This is the reading followed by Clifford Williams in his current production at the Aldwych (the first in London for over forty years), and he is justified by the results. Despite one or two serious flaws in interpretation, the play comes across as a powerful piece of work. It doesn’t disintegrate after the opening scenes, as might have been supposed; while those critics who found much of it extremely funny in the study are now fully vindicated by the way in which even the horse-play holds the stage.

The harsh wit, the gangster morality, the sardonic Grand Guignol: all these are very much to contemporary taste. But before we rush to join the devil’s party yet once again, it is worth pausing to consider a more orthodox point of view, such as the case presented by Alfred Harbage in the special Marlowe issue (Summer

1964) of the ever-invaluable *Tulane Drama Review*. Professor Harbage is a traditionalist, who sees the play as a piece of devil-baiting (the theatrical equivalent of bear-baiting and bull-baiting), with Barabas as direct descendant of the Vice figures of the interludes. In this context devil-baiting sounds ominously like Jew-baiting, but as Professor Harbage points out, in a society where men had recently been burned for being the wrong kind of Christians, no one would be shocked at the prospect of men merely being fined for being Jews. And whether we like it or not, there is “a hierarchy of social acceptability and privilege postulated in the play, with the Knights of Malta at the top, the Jews at the bottom, and the Spaniards and Turks in between”—a structure which is “nicely honoured” in the final doling-out of rewards and punishments. “Nicely honoured” is perhaps rather a prim way of putting it, in view of Barabas’ spectacular final plunge into a boiling cauldron; but there is no denying that if the play is taken at face-value it rests on the assumption that Barabas can do no right and the Knights (in the long run, at any rate) can do no wrong.

Even a producer who rejects this approach ought not to show up the double-dealing of the Knights too blatantly, if he wants to preserve the spirit of the play. (The knockabout friars are another matter, a boisterous Elizabethan skit on Popery, but not necessarily on religion itself.) It is useful, too, for admirers of Barabas to be reminded that unlike the Turkish or Christian leaders he acts only for himself, and has no interest in his co-religionists. All this is stressed by Professor Harbage, who doesn’t allow sentiment to colour his history. But if there were conventions within which Marlowe had to work, it needn’t necessarily follow that he agreed with them; and in fact in *The Jew of Malta* the purely literary evidence suggests that he was working against them. To take the most glaring single instance, there is the contrast