

J.D. BERNAL

JANE BERNAL

St. Georges Hospital Medical School (Londres)

RESUMEN

Como hija de J.D. Bernal, nacida en 1953, estuve presente en durante buena parte del periodo de la Guerra Fria. Mi madre fue la profesora comunista, critica literaria e historiadora Margot Heinemann. El nuestro era un hogar altamente político. También allí aprendí que la buena historia se basa en fuentes primarias. Obviamente era demasiado joven para tener recuerdos personales de los acontecimientos políticos del principio del periodo. Mi propio compromiso político empezó realmente cuando mi padre ya estaba enfermo. Más tarde participé en algunas de las mismas organizaciones, pero eso fue ya bastante después de su muerte. En este artículo utilizaré tanto fuentes documentales contemporáneas como mis propios recuerdos para exponer las actividades de Bernal en esos años. En particular, me centraré en su actitud hacia la URSS, que era más compleja de lo que algunos han aducido. No soy ni historiadora, ni política ni filósofa profesional, mis sesgos son evidentes,

ABSTRACT

As J.D. Bernal's daughter, born in 1953, I was present through much of the Cold War period. My mother was the communist teacher, literary critic and historian Margot Heinemann. Ours was a highly political household. It was also where I learned that good history relies on primary sources. Obviously I was too young to have personal recollections of political events early in the period. My own political involvement really started when my father was already unwell. Later, I became a participant in some of the same organisations, but this was largely after his death. In this paper I will use contemporary documentary material as well as my own recollections to discuss Bernal's activities during those years. In particular I will focus on his attitude to the USSR, which was more complex than some have argued. I am not a professional historian, politician or philosopher, my biases are obvious, my only advantage is that I know or knew some of the protagonists and therefore

mi única ventaja es conocer o haber conocido a algunos de los protagonistas y puedo, por tanto, dar testimonio de fuentes inesperadas. *may present evidence from unexpected sources.*

Palabras clave: J.D. Bernal, Siglo XX, Ciencia y política

It is now, 30 years since J.D. Bernal died. But I am sure that he would have been pleased that in the year 2001 people still wanted to discuss his ideas, to develop some, discard others, and to move forward on some of the issues that were important to him*.

It is also interesting and appropriate that this paper is published in Spain. These days, in the UK there is little interest in his work though I hope *J.D. Bernal: a Life in Science and Politics*, [SWANN & APPRAHAMIAN, 1999] will change that.

The Spanish Civil war was one of the great events that motivated the intellectuals of my parent's generation [FYRTH, 1986]. My mother, Margot Heinemann, was of course, more personally involved with events in Spain than my father. It was in Aragón that her lover John Cornford had his first military experience in Spain, at the siege of Huesca, where he wrote his most famous poems [HEINEMANN, 1988; GALASSI, 1976]. He later returned to Spain, effectively a founder member of the International Brigade, and was killed at Lopera in December 1936. But that is another story.



Portrait

The name Bernal is Spanish. J.D. Bernal's ancestors were Spanish Jews. One was burnt at the stake in Córdoba in 1654. The family left Spain and eventually settled in Ireland, where they converted to Catholicism [HODGKIN, 1980, p. 17].

I am not a professional historian, politician or even a scientist. I am certainly not a philosopher. I am, in fact, a medical doctor, specialising in the psychiatry of learning disabilities (mental retardation) and medicine is

* *Se refiere al I Congreso de Historia Social de la Ciencia, la Técnica y la Industrialización (Zaragoza, 19-22 de septiembre de 2001), donde Jane Bernal pronunció la Conferencia Inaugural.*

a technology rather than a science. My value is as someone who was present for the last 18 years of J.D. Bernal's life, the first 18 of mine. Though our professional careers did not overlap at all and I joined a political party only in 1968, the year in which his active involvement was cut short by illness, I know or knew many of the people involved.

In writing this I owe a great deal to many people, living and dead, though all the errors, omissions and biases are my own.

I would like to thank the many people whose work made my father's work, possible: Francis Apprahamian; Stan Lenton; Vivien Pixner, his Peace secretary; Anita Rimel, his formidable secretary for Science; Brenda Swann, his former secretary, who made the Bernal Archive in Cambridge [SWANN, 1979] and edited *Bernal: a Life in Science and Politics*; Professor Alan MacKay; my brothers (really my half-brothers) Martin, Egan and Mike Bernal; Margaret Gardiner; Eileen Bernal.

I should especially thank my mother, Margot Bernal, Margot Heinemann, whose personal and intellectual, as well as genetic, influence on me is immense.

I thank the biographers, Steven and Hilary Rose, Dorothy Hodgkin, Maurice Goldsmith, Gary Werskey, Fred Stewart, Max Perutz, Joseph Needham and the University of Cambridge Library that holds the Bernal Archive [SWANN, 1979].

Also the many others, friends, colleagues, comrades of his or of mine who have helped me write this, even if they did not know they were doing so. In particular Eric Hobsbawm, Julia Goodfellow, Len and Rosemary Wells, Noreen Branson, Marion Sling, Steve Iliffe, Cyrus Chothia, Anna



*Margot Heinemann & Desmond Bernal
ca. 1956*

Merton/Kan, Martin Hollins, Phillip Gell, Richard Williams, David Cotson, James Klugmann, Nigel Morson, Sam Morson.

I was brought up by historians. My mother liked to tell me the story of some researchers undertaking a project on the oral history of the Long March in China. The old comrades could remember every detail of a particular battle except whether they, themselves, had actually participated! She was also very insistent on the importance of primary sources. Though I was alive throughout the period in question I am obviously too young to remember much about the earliest period. As you can imagine our household was a highly political one. My parents talked about the things that interested them and involved me in their discussions though they never told me what to think, unlike some communist parents of their generation [COHEN, 1997]. But I am all too aware of the limitations of personal recollections. I have therefore chosen, wherever I can, to supplement my own memories with documents written at the time.

I am not a professional daughter. By that I mean that I have not made it my life's work to go round talking to large audiences about my father. This paper was partly inspired by the floridly written but maddeningly evasive piece by Ivor Montague [MONTAGUE, 1999] in *J. D. Bernal: a Life in Science and Politics*. The chapter fails to give any account of my father's views and actions in the crucial years of 1956 and 1968. I had some idea what those views were. Any biographer would rightly regard me as biased and discount what I said if I could not back it up with documentary evidence. So I decided to do some research.

The public statements of official spokesmen are a poor guide to their actual views. This is especially true of statements from the World Peace Council during the Cold War. Most WPC resolutions were the result of a painfully negotiated agreement. Obviously the main negotiators were not going to leave the meeting and make public statements that undermined the consensus they had worked so hard to achieve. My father's lead articles in the *WPC Bulletin* occasionally have the air of being written by a committee. I have therefore used other sources, particularly the Bernal Archive at the University of Cambridge. Other libraries, particularly the Museum of Labour History, contain a wealth of related material that I have not had time to consult.

What I intend to do is to tell you a little about what he was like as a person, to talk very briefly about what sort of scientist he was, to consider what kind of communist he was, and finally to reflect on our time together, particularly on our holidays and his last illness.

What sort of person?

So, what kind of person was he? In the first place I should say he did not take himself seriously, he was not self-important. He took the movement extremely seriously and science, its history and social functions. But he was always ready to laugh at himself. For instance, Snow [GOLDSMITH & MACKAY, 1964, p. 19] referred to his *beautiful humorous hazel eyes*. We decided that they were not, they were mud coloured and the phrase *beautiful humorous hazel eyes* became a family joke.

I'd like to say something about his name. When I was young I called him Daddy or Da but in my part of the family on the whole we called him Desmond or Des. The nickname, *Sage* comes from when he was an undergraduate in Cambridge in the 1920s and refers to knowledge or learning rather than wisdom. It derives, so he always said, not so much from the English word for wise man or philosopher, as from a pun made by the 19th century nonsense poet Edward Lear in his poem, *Two Old Bachelors*. The Spanish for sage is both *sabio*, a learned man and *salvia*, a herb used in cookery.

TWO OLD BACHELORS



*Those two old Bachelors without loss of time
The nearly purpledicular crags at once began to climb;
And the top, among the rocks, all seated in a nook,
The saw that Sage, a reading of a most enormous book.*

'You earnest Sage!' aloud they cried, 'your book you've read enough in!

'We wish to chop you into bits to mix you into Stuffin!'

But that old Sage looked calmly up, and with his awful book,

At those two Bachelors' bald heads a certain aim he took;

and over crag and precipice they rolled promiscuous down,

At once they rolled, and never stopped in lane or field or town,

And when they reached their house, they found (besides their want of Stuffin'

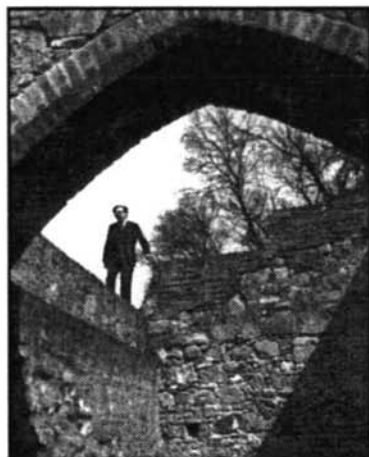
The Mouse had fled; —and, previously, had eaten up the Muffin.

They left their home in silence by the once convivial door.

And from that hour those Bachelors were never heard of more.

I reproduce part of the poem and its illustration here. I am sure it loses something in translation but would like to reassure any translator that it is nonsense even in English [LEAR, 1947].

He was very untidy and, left to himself, very scruffy. When he could choose he wore an old tweed jacket and baggy flannel trousers. He hated to have his hair



J.D. Bernal in Hungary (1954)

cut. It was dead straight; mouse coloured, and stuck up vertically from his head until it was about two inches long when it flopped over. Long hair was not at all fashionable in the 1950s and early 60s. His hair gave rise to his other nickname, *Old Chrysanthemum*.

You will notice that in many of the photographs he is wearing a suit, even a three-piece suit. Neither of my parents was interested in photography and we did not own a camera, so many of the photographs I will be using were taken on official occasions. On holidays sometimes other families had a camera but I am afraid there are very few snapshots of him at home during this period.

In his pocket he always carried a slide rule and a propelling pencil with leads in four colours. He was always drawing diagrams, what we would now call mind-maps, to illustrate and help formulate his thinking.

He was infinitely curious. On holidays as soon as we reached the beach, he would be off, investigating the stratification of the cliffs, the sea anemones or the structure of the pebble bank. It was often difficult even reaching our destination; we had to visit any archaeological site or close friend situated within a reasonable radius of our route. So Oxford, where Dorothy Hodgkin lived and Bristol, home of Cecil Powell, were on the route from London to West Cornwall. So were the Rollright stones, Avebury, the White Horse and of course Stonehenge, all important prehistoric monuments.

In Cornwall there are Iron Age underground passages called *Fogous* (similar structures in France and Ireland are known as *souterrains*). No one knows for certain why they were built. Some are too small for an adult to enter. He encouraged me to explore them telling me stories about children who discovered cave paintings and Mycenaean carvings.

As a child I was convinced he knew everything. He knew the name of every rock and flower and all about history, art and architecture. He knew nearly as many novels and poems as my mother. When we visited a museum it was not unusual to find a small crowd going round with us. They assumed he was the official guide. He

read very fast and his memory was phenomenal. He claimed that the only book he had ever needed to read twice was James Joyce's *Ulysses*!

I later came to realise that there were things he knew nothing about. He always admitted he was ignorant about the history of Fourth century Romania. But there were other, more mundane, gaps in his knowledge. He could not cook, though he loved good food, and he avoided shopping if he possibly could. All those suits, collars and ties in the photos were bought by my mother or Anita or Vivien or Francis or whoever, but seldom by Desmond himself. He did not know anything about sport. He was certainly not musical, though he enjoyed Mozart operas, particularly Don Giovanni, musicals and comic songs.

He was without physical fear, he would climb any cliff or ruin to examine how it was constructed, he loved surfing. I can only remember him once sounding fearful and that was well into his last illness in 1969 when he had for the first time experienced the pain of a heart attack.

One of his passions was for geology. On one Scottish holiday he dragged us all through mist and rain to look at an *unconformity* that is, a place where the strata of the earth lie over one another in the wrong order. Nowadays Knockan Cliff is a site of special scientific interest with a visitor centre but then it was a bleak, windswept, road construction site.

His curiosity about the world was like that of an intelligent child and he loved children, I think because they shared that drive to explore. He talked to children about science, history or politics without patronising us, boring us or using long unfamiliar words. We were not as clever as he was, but he was used to that, nor were his adult audiences. He would branch off from one story to another. He might start off talking about being a little boy in Ireland and the time his brother Gofty threw all the eggs at the wall. He would move on to Priestley and the discovery of oxygen, or tales of watching wild elephants in Burma during the War.

He was passionate about the importance of observation and experiment. Other kids had conjurers at their birthday parties, but for mine, Des would bring stuff back from the Lab and demonstrate experiments in the back garden. He would freeze a rose and a bit of rubber tubing in liquid oxygen and then smash them with a hammer. Then he would burn steel wool in the oxygen. Various colourful chemical reactions followed. He showed us that science was creative and alive, not a dry, theoretical textbook subject.

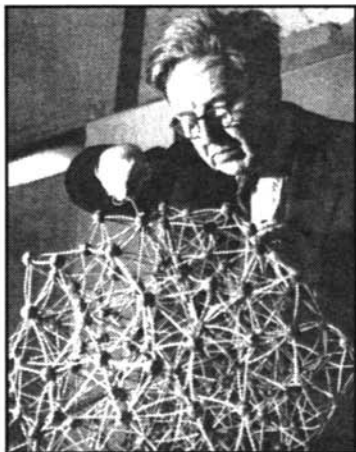
He was personally calm and gentle; few things annoyed him. He did not take much notice of the hassles of everyday-life. These characteristics made him an excellent chairman. But they could be exasperating for the people who were responsible for keeping him organised. When I was quite small I overheard him on the telephone to Anita Rimel. *Yes, Anita. No, Anita. I am sorry Anita. I will try, Anita.* He said apologetically. I turned to my mother, *Is Anita Daddy's teacher?* I asked!

What sort of scientist?

What sort of scientist was he? His scientific work is summarised by Dorothy Hodgkin; one of the very few people qualified to do so. I will not attempt to paraphrase her paper here [HODGKIN, 1980].

His main scientific pre-occupations at the time I am talking about, were the theory of liquids and speculations on the origins of life. Both reveal his characteristic ways of thinking and working.

In trying to formulate the structure of liquids he and his colleagues, particularly John [FINNEY & BERNAL, 1967], made X-ray and other measurements.



They also produced models of various kinds. I remember them very well, I used to call them scientific toys, these collections of multi-coloured ping-pong balls, wire rods, foam rubber shapes, plasticene and balloons that my father played with at the lab and occasionally brought home for my entertainment. He made one model with balls, representing molecules and rods representing the bonds between them. The lengths of the rods were based on the X-ray diffraction findings. This is a fairly standard type of model. For this particular model the bonding needed to be random so, every time he was interrupted at his work by a message or phone call he would add another rod. The resulting model,

Dorothy Hodgkin wrote [1980, p. 51] had approximately the right density and energy. It was, I believe characteristic that he approached the subject from many different angles. It was also characteristic that John Finney finished the work. Depending

on your point of view Des could be seen as generous or easily distracted. Certainly he was better at starting a piece of work than finishing it, though the 156 scientific papers he published during this period [HODGKIN, 1980] demonstrate that he did finish quite a few!

The numerous articles by former students and collaborators that have appeared since his death, for example Max Perutz in his biographical article in the *London Review of Books* [PERUTZ, 2000] show him as a great facilitator of other people's research. Both in his own laboratory and the many others he visited round the world, he would ask questions, make suggestions and somehow convey to the researchers that what they were doing was both important and possible. Those of us who have ever done research of any kind will know how difficult it is to hang on to the impetus that made us want to take up the project in the first place. Desmond was clearly brilliant at restoring that drive to researchers whose own enthusiasm was flagging.

The work on the origin of life [BERNAL, 1967a] is speculation, based on the knowledge that was available then. Though he was a committed empirical experimental scientist he was always imagining the possible consequences of current scientific knowledge. He used to refer to his much earlier (1929) speculative piece, [BERNAL, 1970] as, *science fiction really*. But he did believe that scientists, particularly the combination of geologists and molecular biologists, would be able to establish the origins of life and was fascinated by the experimental challenges this posed. In Cambridge last month Cyrus Chothia, a crystallographer, was telling me about his current work, tracking back the evolutionary path by examining the genome and the structure and function of enzymes in different organisms. How Des would have delighted in those ideas!

He was highly regarded as a scientist by other scientists, even those who hated his politics. The Royal Society, the elite of British Science placed him on important committees while deprecating his Marxism. Many of his friends, former students and collaborators, including Aaron Klug, Maurice Wilkins, Dorothy Hodgkin, John Kendrew, the Joliot-Curies and Patrick Blackett won the Nobel Prize. It is clear that they regarded him as their intellectual equal, he was the sort of scientist who



From left: J.D. Bernal, Irene Joliot-Curie, Prof. Rahman, Frédéric Joliot-Curie

wins the Nobel Prize. That he never did so is partly because he did not stay long enough in one field of study. His politics also made it more difficult. And from 1949 onwards the sheer amount of time he devoted to the peace movement rather than to scientific work obviously played a part.

X-ray crystallography is both a highly mathematical and very visual branch of science. My father was certainly a very visual thinker and this is reflected in his love of art and architecture as well as science. He took in visual information at great speed. Once, frustrated by my father rushing round some art gallery my mother challenged him to describe a particular picture from memory. He did so, including details she had failed to observe.

The organisation of scientific information worried him. He used to say that it was easier to complete a scientific project than to find out if someone else had already done so. This frustration led to his interest in the establishment of a *Science Citation Index* [SWANN & APPRAHAMIAN, 1999, p. 306; Bernal Archive, B.3.291].



J.D. Bernal with Eugene Garfield

(I am not sure that he would have approved of the Research Assessment Exercise in which the UK Government now uses the number and impact factors of published articles to determine the funding of Universities). In 1959 he wrote in *Scientific World*,

«A general pattern of scientific advance is apparent: it can be likened to a net rather than to a tree» [BERNAL, 1959].

Which seems a good prediction. It is a shame he missed the Internet.

Events of 1953- 1971

I will not insult historians by going through the many events that took place between the death of Stalin in 1953 and the admission of China to the UN in 1971. My father was involved in many of those events. A timeline of his visits and publications is given in *Bernal: a Life in Science and Politics* [SWANN &

APPROHAMIAN, 1999, pp. 305-306]. All this activity was to prevent a catastrophic historical event that has not occurred, a Third World War, and another that may yet engulf us: advancing poverty and famine. It is difficult to prove a negative. We do not know to what extent his actions helped avert a nuclear war. We do know that he tried. The terrible events in the United States and on the West Bank make us realise than ever that modern warfare kills large numbers of innocent civilians and that nothing can justify a nuclear war. Perhaps it also shows us the value of peacemakers.

What sort of Communist?

What sort of Communist was he? This probably seems a rather strange question to those people who are not, never have been, and never intend to be Communists. They may recognise Pro-Soviet, Pro Chinese or Pro-Cuban tendencies but beyond that there is a stereotype of what a Communist is, especially a Communist in the Cold War period. The Communist is rigid, dogmatic, disciplined, unswervingly loyal to the USSR (or China or Cuba). He is either very stupid, accepting the Party line without question. Or he is devious and unscrupulous. He is unimaginative, has thin lips, steel rimmed spectacles, no sense of humour and believes that the end justifies the means. I exaggerate a bit, but you get the picture.

For those of us who were Communist Party members, as I was for over twenty years, the reality was more complex. In the Communist Party of Great Britain, there was certainly enormous internal debate and discussion. From 1956 onwards it was increasingly a divided Party, however monolithic it appeared from outside. And the same is true of many other European Parties.

My father joined the Communist Party in the 1920s. From 1939 onwards he did not as far as I have been able to work out hold a card. He continued to write for the *Daily Worker*, he sat on the Editorial Board of *Marxist Quarterly* and later of *Marxism Today*, both Party journals. He used to look after me while my mother attended the meetings of her local branch of the Communist Party. We attended May Day and



May Day March Charing Cross.
Desmond, Margot and Jane

Aldermaston marches as a family, often under a Communist banner. So, card or no card, he was a Communist in some sense, publicly as well as privately. His decision not to hold a card was probably to make his work with the World Peace Council and Pugwash easier.

During the Cold War he was viewed as a Communist by the governments of both Britain and France as well as in the U.S. An attempt was made to deport him while he was lecturing at the congress of the French Association for the Advancement of Science in Caen in 1955 [SWANN & APPRAHAMIAN, 1999, p. 306]. He became a person *defendu de penetrer en France* and special dispensation had to be made for him to attend and address the funeral of his friend Frederic Joliot-Curie in 1958 [MONTAGUE, 1999, p. 226].



The Zelig picture.

Isabel Blume, Krushchev, J.D. Bernal, Mme. Cotton, Paul Robeson

Des did not make a big deal out of knowing Krushchev, Nkrumah, Tito, Nehru or whoever, and did not present himself to me as a *Great Man*, so when I look at this photograph it reminds me of the Woody Allen movie, *Zelig*. But even though I was not aware of it at the time, he moved as an equal among World Leaders and future leaders. The photograph was taken at the WPC meeting in Moscow in, I believe, 1959. It shows Krushchev, Paul Robeson, Madame

Cotton and other members of the presidential committee. At that meeting there were many representatives of Peace Movements from newly independent African States. Each wanted the opportunity to address the assembly, which would have meant the session would last all night. Des had to go to them and explain that though he would remain in the chair and could require the technical staff to stay, he could not compel the other delegates to do so. He suggested that they select one to be the *Voice of Africa*. That they were able to do so says a lot about Pan-African Unity at that time. It would not have been possible only a few years later.

I feel I have to talk about the Lysenko affair though I realise that this falls outside my time frame, it seemed dishonest not to mention it. It is the one point at which I cannot justify my father's views however much I may understand them. He was wrong, though he was not personally responsible for the death of Vavilov and the other Soviet geneticists [ROSE & ROSE, 1999, pp. 147-151].

I think my father did not expect experimental data to be falsified, least of all in the Soviet Union. He recognised the crucial importance of agricultural production to the future of humanity. He was opposed to eugenics and genetic determinism, like all progressive scientists of that era. This probably encouraged them to hope that environmental manipulation could change everything. Others including both J.S. Haldane and Lionel



J.D. Bernal with Lysenko

Penrose, who were geneticists, recognised Lysenko's views as nonsense at a much earlier stage. Bernal was not himself a geneticist or biologist and he knew that scientists working within the old paradigm often disbelieve new scientific theories. He knew the world was divided into two camps and which one he supported. With hindsight it is easy to say he should have argued against Lysenko. But even after Lysenko was exposed, Desmond's criticisms seem muted, given the enormity of what happened.

The Pelagian heresy

My father was not religious; he was a committed atheist. He used to say, about himself, as a joke, that he followed the Pelagian heresy. For those of you who, like me, were not educated by the Jesuits, Pelagius was a Briton who objected to the teachings of Augustine of Hippo, the official doctrine in the Roman church at the time. Pelagius argued that this doctrine would mean that God only saves particular predestined individuals. The rest would be condemned however much they hoped for salvation and however well they behaved. Augustine's God is portrayed as both arbitrary and cruel. Pelagius believed that Man was basically good and could control his own destiny. The Roman Emperor, Honorius, banned Pelagianism as heresy. Pelagians, my father said, believed in the perfectibility of man. By referring to his own beliefs in this way he was talking about the optimism that is so obvious in all but the very last of his published writings. There could be a better society, in which science was used to prevent famine and pestilence and not to make war. These views are most clearly expressed in *World Without War* [BERNAL, 1958, 1961], where he both expresses and quantifies his optimism. The central theme is that war is an immense waste of money and human effort. Without it there are enough resources, particularly *abundant limitless energy* to end starvation, plague and poverty. These were preoccupations that persist into his last writings.

The crying evil of the present world, he writes in *World without War* [BERNAL, 1961, p. 1], *is the great and ever growing gap between the standards of living of the rich and the poor, the few and the many.*

«I want to see a socialist world but I do not expect this all at once. Countries with different economic systems can exist side by side in peaceful competition. It is perfectly feasible to utilise the capital resources of the most advanced industrial countries for the building up of the economy of the rest of the world without diminishing the capacity of their industries to meet their own needs» [BERNAL, 1958, p. 3].

Later though he saw the crying evil even more clearly he became less certain, not that science could reverse it, but that any government had the political will even to try. In 1966 he wrote:

«I cannot agree with the optimistic forecast of Dr Max Steinbeck [Chair GDR research council]. It is true that particular advances of science could be reached by 2000 ad but will they be reached, is there any sign that they will be?» [BERNAL, 1966; Bernal Archive, B.4.97].

He was usually the most generous of reviewers but in 1967 writes with uncharacteristic anger reviewing Angus Calder's *The Environment Game* [BERNAL, 1967b].

He sees it as *inexcusable* to write another *science for human welfare* book, though he admits he has often written them himself in the past. He describes famine as being as sure but not as speedy a death warrant for humanity as the H-bomb. *If it paid to feed all the people in the world they would have been fed.*

In his 1967 essay, *Enormity or Logic and Hypocrisy in the Ultimate Solution*. [BERNAL, 1967c; Bernal Archive, B.4.101] optimism has vanished:

«This is a most pessimistic essay. It should be impossible, all my friends say to write anything about world politics without indicating a hopeful solution and showing what we must do to achieve it. But I can not do this and can not see that it is logically necessary.

Many now alive may see the beginning of the end of humanity, a self-destructive consequence of evolution biological and social.»

In *Can Humanity Be Saved From World Starvation?*, an article for the *Morning Star* in 1968, he makes the same point:

«For the past 2 years less food produced than rise in world population. The overall picture is the unfavourable terms of trade for the 3rd world countries who have to sell their raw materials cheap and buy their machinery dear, so the rich get richer and the poor poorer.»

Both Capitalist and Socialist countries, he writes, ignore this problem in practice!

«Need we feed the peoples of the world? Do the rich need them?» [BERNAL, 1968a].

It is perhaps tempting to dismiss this as the despair and anger of an old sick man, *Rage, rage against the dying of the light*. But the concerns go back much further. They underpin *World Without War* [BERNAL, 1961] and led to a disagreement with among others, the editor of the *New Statesman* and Joan Robinson, the economist. In 1959 he argued that pressure of population was not the limiting factor in human welfare. The important thing was the production of food:

«Even if the ideal 'pill' were developed, it would be statistically impossible for it to affect the growth of population by 2,000 which will be at or above 5 billion. It is unlikely to settle down at much under 10 billion» [Correspondence from *New Statesman* in Bernal Archive, B.3.285].

The important thing was the production of food. Joan Robinson responds, *anyone would think he was a Catholic*. When I read the published correspondence this year in the Bernal archive I was convinced by her argument. Until I went home and checked the figures.

The population of the world in mid 1959 was 2,997,268,998, annual rate of growth 1.39; in mid 2000 it was 6,080,141,683, annual rate of growth 1.26.

The 1961 edition of *World Without War* expresses similar concerns and contains this prediction of world population, immediately after a table showing current levels of food production [BERNAL, 1961, p. 65].

«The Extremist Lenin»

«I still remember clearly when I first heard of it at breakfast at school. One of the masters was reading from the newspaper that the Provisional Government had been overthrown and that the extremist, Lenin, had taken power. This was also the first time I heard of the extremist, Lenin.»

Desmond wrote that in 1967 for the 50th anniversary of the October Revolution [Tass, Russian News Agency November 1967; Bernal Archive, B.3.385]. My mother and I used to say that he was a 1920s Marxist. By that we meant that he was one of those who remembered 1917, who were impelled into the Party by the Russian Revolution. That group were also much more heavily influenced by Freud and D.H. Lawrence than the next wave of recruits. My mother's 1930s generation became Communists to participate in a Popular Front against Fascism. She did not join the Party because of the Soviet Union. She thought he was more loyal to the Soviet Union than she was because of this. Though he was privately critical of the Soviet Union, for example in the letter to Ehrenburg that is quoted by both Gary Werskey and Maurice Goldsmith [WERSKEY, 1978, p. 318; GOLDSMITH, 1980, p. 131], he was quick to defend it in public.

For both my parents the events of 1956 changed the way they thought and felt about the Soviet Union forever. Both the invasions of Hungary and Krushchev's earlier revelations at the 20th congress of the CPSU shook their world. I was only three at the time, all I think I recall is a general sense of distress. The oral history says that my father and Harry Pollit, two of the least quarrelsome of men had a public argument about the invasion of Hungary. Pollitt, the General Secretary of the CPGB told Des, *After the War you asked me for a Party Card. Now I'm glad we did not give you one!* Both men were very upset. The next day Harry sent *Big Peter* Kerrigan, the Industrial Organiser round to apologise, not for his views, which he upheld, but for his anger.

In *The Adventurers* [HEINEMANN, 1960, pp. 202-203] my mother gives a fictionalised account of the impact of 1956 on communist intellectuals.

«Richard had been struck with horror at the news from the Soviet Union that year. Not that he had ever believed or proclaimed it to be a Paradise. With two vast wars and a thousand years of ignorance and darkness to overcome, one knew it could hardly be that. But he had most firmly believed what he taught -that because the workers ruled, all hardships were shared, miners and teachers were honoured and the stuffed shirts and militarists pulled down. Their justice might be raw and crude, the justice of a besieged fortress against traitors,

but he understood that in this raw sense it was nevertheless just. He knew Tommy and Eddie and Conner and Griff Jones: he had heard Harry Pollitt and Will Paynter. He was confident that the rule of these men, of this class, would be as they were, humane and fair; and wasn't that what a Workers' State meant?

Now came Krushchev's story of repression and brutality, of secret purposeless arrests and workers murdered, confirming from the highest in the Soviet Party gangster tales that had fattened the yellow Press in Britain for years. When had the Mail or the Telegraph or the Sketch lacked an escaped colonel or police official to make, in serial form, these identical revelations? One knew that what they printed about the miners or the H-bomb was up the pole. It had seemed reasonable enough to discount all the rest as tainted at the source. If the devil could speak true, whom could one now believe?»

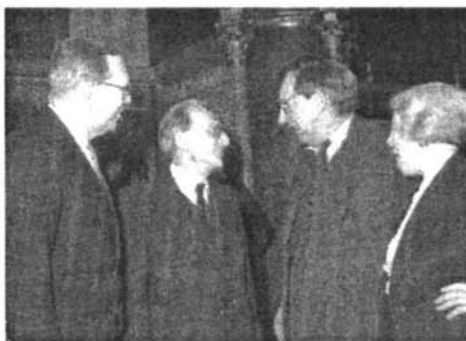
«And then came Hungary, the pay-off for years of crimes or mistakes, whichever you chose to call them. The Press carrying big, clear pictures of Communists swinging from lamp-posts, tanks firing on workers' flats -with the deadly danger of world war over Suez and the final bomb to thicken the nightmare chaos in the minds of men. The shock was not just the violence and bloodshed in itself. It was that the workers in factories and mines had not risen united to defend a Socialist Government, had not, it seemed, thought it worth defending.

It seemed to Richard now that all the people who had refused to listen were quite right. If they dug their gardens and looked after their children, they were fully entitled to feel contempt, even anger, towards those who had claimed to understand and settle the world.»

The Adventurers is a novel, but I think it expresses something of what my parents and their friends were going through.

It is clear from what he wrote at that time [Bernal Archive, B.3.244] and again in 1957 that my father did think that there had been a real risk of counter-revolution in Hungary. But he did not think all the actions of the Soviet Union were justified.

When he visited Hungary again in 1957 he met Lukacs and afterwards reported his visit in the *New Statesman* and *Tribune* [Bernal Archive, B.3.256 & B.3.257]. The report is brief, its purpose seems to be to reassure the non-communist left that leading Hungarian intellectuals have not been arrested or killed.



J.D. Bernal with Lukacs at Hungarian Parliament Building

How aware was he of repression in the Soviet Union, both before and after 1956?

It is hard to know. He did not speak Russian but visited almost every year the Soviet Union between 1953 and 1963. Des had many good friends in the Soviet Union, artists as well as scientists, some conformist, others not. He clearly intervened on their behalf with the Kremlin. Hodgkin writes Krushchev used to ask him, *Who is it you want to get married this time?* [HODGKIN, 1980, p. 68]. Whether the interventions were successful I do not know.

He was enthusiastic about Krushchev, less so about those who followed him, though his public pronouncements until 1968 remain broadly supportive of the USSR. When he does criticise them it is not on their human rights record but for the splits that have opened up in the Communist movement, increasing the likelihood of World war and undermining the peaceful co-existence that offered the best chance of preventing it. He was also critical of the lack of public debate on these issues within the Soviet Union itself. In 1968, before the invasion of Czechoslovakia, he writes of the positions taken by the Chinese and Cuban Communist Parties. He is critical of both and of the lack of constructive debate between them. He asserts that it is no longer a simple conflict between Left and Right as in the Cold war but one in which there are many different forces in a confused state of struggle and without any clear perspective for the future. He claims that it is even more difficult to work out what the Soviet position actually is than the Chinese or Cuban one [BERNAL, 1967; Bernal Archive, B.4.103].

He himself was very excited by the Chinese Revolution and visited China in 1954 and 1959 [BERNAL, 1955]. His son, my brother Martin, spent a year there as a student. That there should be theoretical differences between the Soviet and Chinese communists was perhaps inevitable. That communists should disagree with one another to the extent that it nearly caused a world war was intolerable. Des used to say that he thought his main role in the Peace movement had been to prevent people walking out, breaking whatever fragile links remained. When he was obliged to choose he chose the Soviet Union rather than China. He preferred the theory of peaceful. But he was deeply distressed by the split between them.

Irish Anti-colonialist

My father could remember the newspaper reports of the Russian Revolution but he witnessed, though he did not participate in, the Easter rising in Dublin in 1916. He used to describe returning home from school in England and seeing the streets of Dublin in ashes. As an Irish Catholic boy on an English (Protestant) public school he saw Ireland as a colony and England as a colonial power. His family were farmers, prosperous gentleman farmers it is true, but though he passed over his rights to the land, all his life he identified with rural colonial peoples seeking liberation from Imperialism. Again this was in contrast to my mother whose identification was more with the urban working class. He was, if you like more of an internationalist than she was. I do not want to overstate this. Of course intellectually both understood about the central position of the proletariat and about Imperialism. But my mother understood workers in a way my father did not and my father had a much deeper understanding of colonialism. He thought a lot about the scientific aspects of neo-colonialism. He argued that there is a danger that high-powered research will only be done in old countries (mainly US), there is also a danger that very small, poor countries feel they must do research in all areas producing no useful results, he calls for the cross linking of research institutes and *the absolute necessity of involving the people themselves (both as workers and consumers) with the job of scientific research. It is not something to be done for people but with people and by people* [BERNAL, 1965a]. There are notes in the archive dating from 1966 [BERNAL 1966; Bernal Archive, B. 4.97]. They end, *if my head and my voice were clearer I would write a great article on this subject: that is why I am praying I may be able to say what is in my head before I die.*

His writings in 1967 and 1968 make it clear that for him, what was happening in Vietnam and South Africa were infinitely more important than the *London Paris Rome Berlin* slogan of the student uprisings. As, of course, they were to the students on the streets as well.

When he was growing up in Ireland the Great Hunger, the Potato Famine was no longer ago than the 1930s are now. Images of the famine appear repeatedly in my father's writings. *In Ireland during the famine the wealthy survived by closing the shutters of their dining rooms*, he wrote in his pessimistic 1967 essay, *Enormity or logic and hypocrisy in the ultimate solution* [BERNAL, 1967c; Bernal Archive, B.4.101].

Famine and its prevention by scientific agriculture are as central a theme as the prevention of nuclear war. One reason he valued Krushchev so much was that they both claimed peasant origin. As I argued earlier, these concerns also made him too ready to support Lysenko.

1968

1968 was the year of the Tet offensive, and of student led uprisings across Europe. In August 1968 the Warsaw pact countries invaded Czechoslovakia. We were on holiday in Swanage on the Dorset coast, my parents, my friend Clio Whittaker and I. I had just returned from the World Youth festival in Sofia, where I had met Czech students from the Prague Spring. The flat was small and not at all suitable for my father's wheelchair and Zimmer frame. It had no telephone. We knew that there was a risk of military action but hoped that the agreement made in Bratislava had averted it. Then we got the news of the invasion. My father was still an important figure to the World Peace Council at the time, though he was by then very immobile. He came under considerable pressure from the leadership, conveyed to him by Anita Rimel and Ivor Montague, to issue a statement supporting the position of the Soviet Union. He refused to do so. Clio and I ran between the flat and the Post Office, to send telegrams to the various leaders of the WPC explaining his position and refusing to sign the statement they had drafted.

When he returned to London, where he had access to an electric typewriter, he composed the article, *The Doctrine of Peaceful Counter-revolution and its Consequences*, which is filed in the Bernal Archive in Cambridge [BERNAL, 1968b; Bernal Archive, B.4.108]. Two drafts exist, the first contains the typical mistakes of his laborious two-fingered typing. Corrections are made in a painful and almost illegible scrawl. There is a second typed version, which also has hand-written corrections but the article was never published. In it he attacks the *stupid and illegal movement of Soviet military units into Czechoslovakia on the night of August 21st 1968*. The doctrine of peaceful counter-revolution has been put forward in *Pravda* to explain this. He does not deny the threat of counter-revolution, especially from the US and the Federal Republic of Germany, but were the steps taken really necessary? The doctrine, which he says that no-one outside the USSR and DDR really take seriously, states that *a whole country, indeed the whole bloc of the Socialist countries, is threatened, or thinks it may be internally and externally by the US*. The trouble is that this formulation would justify immediate war between

the two camps. This has not happened; therefore other factors must be at work, for example the doctrine of spheres of influence. The dismissal, under Soviet threat, of Dr. Hayek has not provoked an American Military reaction. The US government has accepted that Czechoslovakia is in the Soviet sphere and its invasion is not a *causus belli*. It treats the whole Warsaw pact as a Soviet super-state. He wonders if the US government admits the reality of a peaceful counter-revolution under its direction.

«[...] it is quite possible for a people to say after several years of Communist rule to say, quite peacefully that they prefer the old ways.»

The acceptance or rejection of the doctrine becomes of vital importance since both outright acceptance and rejection could lead to outright war. The argument is sometimes hard to follow but his support for the Czechoslovakian people and anger at the Soviet actions are powerfully expressed.

«The determination of the Czech peoples and their unity in the face of even friendly oppression, means in the long term the survival of an independent Czech state, one which will serve to defend (and extend) socialism in Europe.»

«It is particularly hard that the Czechs should have to bear the burden of the occupation and to accept the virtual validity of the doctrine of peaceful counter-revolution which they have done so little to further themselves; but the Soviet rulers whose suspicions, nourished by the Cold War, really originated it, are intensifying their reactionary politics. Rulers are reacting to the events in Czechoslovakia. It must be difficult for them, despite the propaganda barrier, to understand why Russian soldiers and those of their allies should be sent suddenly and without explanation to occupy the territory of what they had been told had been a model socialist state. The barrier that has served to separate the ordinary people from the outside world is beginning to break down. This is certainly not what the Soviet rulers intended at the outset of the operation».

The article was never published and neither of the versions in the archive read like a final draft. I am not sure whether he simply became too ill to complete it. It is, I fear, possible that it was suppressed as being unworthy of the *Great Bernal*, an image he tried to avoid as long as he was in control of his life.

1956 split the British Party in two and this division became more explicit and more absolute after 1968. The Executive and Political committees made statements deploring the invasion, criticising the actions of the Warsaw pact countries and supporting the Czechoslovakian Communist Party [Statements of the Executive

* Steward [1999] comes to a similar conclusion

Committee and Political Committee on the Situation in Czechoslovakia, 1968, *Marxism Today*, 12, 294-296]. *Marxism Today* covered a series of debates, first on the show Trials in Czechoslovakia in the 1950s [DOBB 1969; CARRITT 1970; GEE 1970] and then on the general question of Socialist Democracy [BRADFIELD, 1970; KLUGMANN, 1970]. In these published discussions communists accuse other communists of opportunism, sectarianism and betrayal. By the time I became active in the early 1970s (I joined the YCL in September 1968) one of the main things one wanted to know about another communist was whether they were a *Tank* or not. But my father was too ill by then to participate in these increasingly factional disputes. These divisions were also present among the group of people supporting my father and on whom he was entirely dependent for his communication with the outside world. Some of them saw the Party's move away from unquestioning support for the USSR as opportunism, others were flattered by the heroic status that my father, and by extension they, had always been given by the Soviet Union. Others, particularly my mother, were openly supporting the leaders of the Prague Spring and those arrested after the invasion. Des was by 1969 entirely unable to walk. It was not always easy to understand what he said. The electric typewriter became his main means of communication. Whatever the reason, the article, almost the last thing he ever wrote, was never completed and never published.

My father had his first stroke when I was 10, a second more serious one on our 1965 summer holiday in Cornwall when I was 12. So most of the time I remember him he was already disabled. It is certainly true that he hated his disability. *I am useless, useless* he would lament. But he went on thinking, working and, until 1968, writing. He did not lose his curiosity; we hauled that wheelchair to the most unlikely spots,

though it was easier to visit great houses and galleries than archaeological or geological sites. After 1969 only a few of us, I was one, could understand what he said. He tended to produce single words or phrases that were apposite to the conversation but seldom a whole sentence. I would come in and conduct a monologue on whatever I was doing, studying evolution at school for example. He would suddenly say a single word, *Axolotl*, or *Engels*, that showed that he was still intellectually present but almost unable to let us know. Even at the very end when he was housebound, the moon landings excited him, especially when someone brought him a piece of moon rock.



Desmond in Scotland with Martin Bernal, his first wife Judy, Margot, Jane and the family of the Cambridge Physiologist P.A. Merton FRS

But I do not want to leave you with that image.

This picture is from Wester Ross where we shared a croft with the Cambridge Physiologist, Pat Merton and his family. My brother Martin and his first wife Judy were staying nearby. We played Mah-jong and read Tintin. Des dictated the third revision of *Science in History* [BERNAL, 1965b] onto tape while the kids played on the beach. Later Anita complained about the mewing of the sea gulls.

This paper is not about nostalgia but about what we can learn from the mistakes and achievements of the past. J.D. Bernal wrote at the end of *Science in History*:

«There is plenty that still needs doing. The first and hardest step is to use our present knowledge to remove known evils. But beyond that there lie still futher tasks, those of continuing and extending research to discover the unrecognised evils that we must in turn fight and destroy... Knowledge must result in constructive change before it can renew itself» [BERNAL, 1965b, p. 977].

I am sure that this paper will contribute to that continuation and extension of research and to the constructive renewal of knowledge.

REFERENCE LIST

- BERNAL, J.D. (1955) «Some aspects of China's Transformation». *The Marxist Quarterly*, 2(2), 77-87.
- BERNAL, J.D. (1958) *World Without War*. London, Routledge & Kegan Paul.
- BERNAL, J. D. (1959) «Planning Science». *Scientific World*, 1 1(5), 4-7.
- BERNAL, J.D. (1961) *World Without War*. London, Routledge & Kegan Paul.
- BERNAL, J.D. (1965a) «Some Problems of Starting Research in Newly Developing Countries. Contribution to discussion at UN Conference Geneva 1963». *Scientific World*, IX(1), 21-23.
- BERNAL, J.D. (1965b) *Science in History*. London, C.A. Watts&Co.
- BERNAL, J.D. (1966) *Thoughts. Dealing with neo-colonialism*. Bernal Archive B.4.97.
- BERNAL, J.D. (1967a) *The Origin of Life*. London, Weidenfel Nicholson.
- BERNAL, J. D. (1967b) «Review of The Environment Game by Nigel Calder». *Comment*, 5(10), 160.
- BERNAL, J.D. (1967c) *Enormity or Logic and Hypocrisy in the Ultimate Solution*. Bernal Archive B.4.101.
- BERNAL, J.D. (1967d) *A comparison between Mao and the Russians*. Bernal Archive B.4.103

- BERNAL, J.D. (1968a) «Can Humanity Be Saved From World Starvation?» *Morning Star*, 17/03/1968
- BERNAL, J.D. (1968b) *The doctrine of peaceful counter-revolution and its consequences*. Bernal Archive B.4.108
- BERNAL, J.D. (1970) *The World, The Flesh and The Devil*. London, Jonathan Cape [First published London, Kegan Paul, 1929].
- BRADFIELD, Harry (1970) «Socialist Democracy». *Marxism Today*, 14, 385-386.
- CARRITT, Bill (1970) «Why did it Happen?». *Marxism Today*, 14, 191-192.
- COHEN, Phil (1997) *Children of the Revolution. Communist Childhood in Cold War Britain*. London, Lawrence & Wishart.
- DOBB, Maurice (1969) «Why did it Happen?». *Marxism Today*, 13, 381-384.
- FINNEY, John & BERNAL, J.D. (1967) «Random packing of spheres in non-rigid containers». *Nature*, 214, 265-266.
- FYRTH, Jim (1986) *The Signal Was Spain: The British Aid Spain Movement 1936-39*. London, Lawrence & Wishart.
- GALASSI, Jonathan (1976) *Understand the Weapon, Understand the Wound. Selected writings of John Cornford*. Manchester, Carcanet.
- GEE, F. (1970) «Why did it Happen?». *Marxism Today*, 14, 95-96.
- GOLDSMITH, Maurice (1980) *Sage: a life of J.D. Bernal*. London, Hutchison.
- GOLDSMITH, Maurice & MACKAY, Alan (Eds.) (1964) *The Science of Science*. London, Souvenir Press.
- HEINEMANN, Margot (1988) «English Poetry and the War in Spain: Some Records of a Generation». En Stephen M. Hart (ed.) «*¡No pasarán!*» *Art, literature and the Spanish Civil War*. London, Thamesis Books, 46-64.
- HEINEMANN, Margot (1960) *The Adventurers*. London, Lawrence & Wishart.
- HODGKIN, Dorothy (1980) *John Desmond Bernal 1901-1971*. «Bibliographical Memoirs of Fellows of the Royal Society», 26. London.
- KLUGMANN, James (1970) «Socialist Democracy». *Marxism Today*, 14, 131-141.
- LEAR, Edward (1947) *The complete nonsense of Edward Lear*. Ed. and introduced by Holbrook Jackson. London, Faber&Faber.
- MONTAGUE, Ivor (1999) «The Peacemonger». In: B. Swann & F. Apprahamian (eds.), 212-234.
- PERUTZ, Max. F. (6-7-2000) «Memories of J.D. Bernal». *London Review of Books*, 22(13), 35.
- ROSE, Hilary & ROSE, Steven (1999) «Red Scientist: Two strands from a Life in Three Colours». En B. Swann & F. Apprahamian (eds.), *J.D. Bernal. A Life in Science and Politics*. London/New York, Verso, 132-159.
- STEWART, Fred (1999) «Political Formation». En: B. Swann & F. Apprahamian (eds.), *J.D. Bernal. A Life in Science and Politics*. London/New York, Verso, 37-77.
- SWANN, Brenda (1979) *Catalogue of the papers of Professor J.D. Bernal 1901-1971*
- SWANN, Brenda & APRAHAMIAN, Francis (1999) *J.D. Bernal. A Life in Science and Politics*. London/New York, Verso.
- WERSKEY, Gary (1978) *The Visible College. A Collective Biography of British Scientists and Socialist of the 1935*. London, Allen Lane, Penguin Books.