

Chapter 7

Joseph Agassi, Philosophy of Technology, and Mass Movements

An Israeli, Joseph Agassi was born in Jerusalem in 1927; studied 1940–1944 at the Jewish Theological School in Cincinnati, then 1946–1951 at the Hebrew University, Jerusalem, with a physics major, but with additional concentrations in mathematics and philosophy. He married Judith Buber in 1949.

Current and past positions: 1997 Emeritus Professor, Tel Aviv University, Tel Aviv and York University, Toronto. 1971–1996 Professor of Philosophy, Tel Aviv University, Tel Aviv. 1982–1997 Professor of Philosophy, York University, Toronto. 1965–1983 Professor of Philosophy, Boston University. 1963–1965 Associate Professor of Philosophy, University of Illinois. 1960–1963 Lecturer and then Reader and Head of Department of Philosophy, University of Hong Kong. 1957–1960 Lecturer in Philosophy, logic and scientific method, London School of Economics. 1956–1957 Research Associate, Center for Advanced Studies in the Behavioral Sciences, Stanford.

Additional previous positions (among many others): 2000–2001 Shann Lecturer, St. John College, Hong Kong University. 1998 Summer, Resource Person, Central European University Summer School, Budapest. 1998 Summer, Visiting Professor of Philosophy, Karl-Franzens-Universität, Graz. 1996 Fall, Distinguished Visitor, Faculty of Education, University of Calgary.

There are two volumes of essays in honor of Agassi, both edited by I.C. Jarvie and Nathaniel Laor in the Boston Studies in the Philosophy of Science series, vols. 161–162:

1995. *Critical Rationalism, Metaphysics and Science*. Dordrecht, Netherlands: Kluwer.

1995. *Critical Rationalism, the Social Sciences and the Humanities*. Dordrecht, Netherlands: Kluwer.

Agassi's books in English (there are many others in Hebrew and Italian) that are relevant (in my opinion) to this chapter are included in the bibliography at the end.

Agassi was already well known in philosophy of science circles—mostly as a faithful follower in the footsteps of Karl Popper—when the Society for Philosophy and Technology was founded. But he was also recognized for having wandered onto the turf of philosophy of technology very early. Never losing his Popperian roots, Agassi picked up on one of Popper's maxims about engineers (whom Popper despised), about how they are “looking for a needle in a haystack.” Agassi parlayed this into a distinction between philosophy of science and philosophy of technology that Popper probably never intended. But all of this belongs among philosophy of science controversies. Once Agassi entered the not-yet-existent field of philosophy of technology (in 1966), he never left; he was one of the most regular attendees in the early days of SPT meetings. There, however, all his energies were focused on how engineers and philosophers of technology, alongside philosophers of science, should be actively involved in campaigns for social responsibility among technical workers. This makes a contrast with Alex Michalos (Chapter 2) interesting.

Michalos never talks much about engineers, and his concerns about social responsibility among philosophers of science barely mention them. This is also true for Agassi. The chief difference is that, in all his presentations at SPT meetings, Agassi explicitly addresses fellow philosophers of technology, urging them to join in the sorts of mass movements for social change that Agassi identifies with Bertrand Russell's Ban the Bomb movement at the beginning of the nuclear age. As we have seen, Michalos chose rather to address more or less the same constituencies, but by way of work with a non-Marxist socialist party in Canada.

Agassi more or less ignores his obvious opponents, those who think that talk of social responsibility is needless—philosophers who say that scientists and technologists when they do their jobs well are already working for the common good. (Agassi does call this an ostrich posture.) We saw Joseph Margolis, in the previous chapter, join Agassi in a forceful attack on this view as defended by Mario Bunge (Chapter 5); as we saw, Margolis says Bunge's view—treating scientists and other technical workers as having social responsibility as an add-on, *when their very professional work is already shot through with values*—is nothing more than hidden positivism.

Agassi's goals, like those of Margolis when he defines what a technological society is, are involved with avoiding the catastrophic; but Agassi is explicit in framing these goals in terms of technological disasters such as nuclear war and

wholesale pollution of the planet. What is different with respect to Michalos is that Agassi comes close to sermonizing when he urges his new friends among philosophers of technology to join in mass movements to save the world. (Agassi is explicit in saying that earlier philosophers of technology had nothing to offer in this regard.)

In this chapter I am going to follow my pattern in the previous one; though Agassi wrote a book on technology, *Technology: Philosophical and Social Aspects* (1985), it does not reflect the directions he pursued in his SPT publications. So here again I try to reconstruct his view. What follow are more or less brief (at least truncated) selections from several of Agassi's contributions to SPT publications. The first quotation comes from the very first SPT publication, *Research in Philosophy & Technology*, vol. 1 (pp. 53–64, with omissions signaled by ellipses):

Technology, Mass Movements, And Rapid Social Change: A Program For The Future Of Philosophy Of Technology

“The problems the philosophy of technology encompasses are very broad, starting from the question: are we better off with technology or without, and with what tool is this decidable? This is an example of a hardly practical question. Consider, however, questions such as. What criteria are used by government agencies to allow the implementation of innovations? How do different agencies and different countries compare? Such questions are of great philosophical-methodological interest, as well as of a great practical value. Is it true, as pilots believe, that runways are improved only after disasters? If so, why? Can this be improved? Questions of this sort are hinged on methodology, on the philosophy and methodology of the social sciences, and on (democratic) social philosophy. It is no surprise that this area is backward, especially in view of the classical opinion that technology is purely physical technology and thus hardly problematic.

“The classical philosophy of technology made no provision for the adaptation of society to technology, no provision for social reforms necessitated by technology. Though social changes of this sort were made, they lagged behind. Now, due to population explosion and pollution many ecologists predict certain inevitable calamities, perhaps an irreversible change in the balance of nature that might make mankind extinct. The question I wish to pose here is *a priori* practically hopeless. It is. What changes ought we introduce, and how can we introduce

them rapidly so as to avert too much of a calamity? To narrow down the question so as to make even a preliminary discussion of it at all conceivable, I wish to put this question for my present discussion: can we learn something from the recent mass movements about rapid social change? Can we make the mass movements more effective, more democratic, more instructive? More pointedly, can we focus the mass movements on the solution of what I call the ‘technological apocalypse’?

“I shall, then, divide my time now among the three following topics:

1. What the mass movements were meant to be;
2. The politics of mass movements; and
3. The technological apocalypse.

1. What The Mass Movements Were Meant To Be

“I wish to begin by quoting from the third and last volume of the autobiography of Bertrand Russell, who, in a certain sense, was the father of the modern mass movements, or at least a major factor in their evolution. Of course, Russell did not plan things in any manner that resembled the outcome. What he had was an immense sense of urgency, a sense of now-or-never about the choice between abolishing nuclear war and abolishing mankind. What Russell felt was that the choice was in the hands of the fates, whereas it should be made rationally by all concerned. We are prone to forget this because his Ban the Bomb movement ended in a failure of sorts, and because somehow, perhaps miraculously, perhaps not, a precarious balance is kept and we pretend to have learned to live with the bomb. I do not think we can get the proper sense of the events of barely two decades ago, unless we try to empathize with Russell’s sense of emergency and his desperate effort to step up his activities. . . .

“What then happened has not yet been sufficiently chronicled, but is still fresh in memory. The movement crossed the ocean and spread in the United States in diverse directions: student liberation, black liberation, sex liberation, women’s liberation, gay liberation. But all these movements were, for most of the time, put in the shade by the mass protest against the American involvement in Vietnam—indeed ever since the day Martin Luther King, Jr., declared he could not go on in good conscience leading the black liberation movement without joining the anti-Vietnam War movement as well and until the end of the war. The movements, especially the student movement and the anti-Vietnam War

movement spread all over the world. Their techniques included, as had the black liberation movement before, both civil disobedience and violence. What the students introduced first were the teach-ins. These were immensely popular and successful, I think, but some viewed them with suspicion as possible means of slowing down the movements and thus dampening their impetus and robbing them of their mass character. I shall return to this soon. . . .

“Soon after the Vietnam War was over, much of the impetus dissipated. Some of it went into a new mass movement—the ecology movement. . . .

2. *The Politics Of Mass Movements*

“. . . It is a historical fact that the leaders of the mass movements, from Bertrand Russell to Noam Chomsky and Howard Zinn, declared their cases to be clear and unarguable. Of all of them only Martin Luther King was right. . . .

“The movement that has the greatest promise for technological problems and that should undertake the greatest and most important and urgent roles is the ecological movement. That movement developed rapidly—as rapidly as other movements—partly because a vacuum was there to be filled in the space of mass movements (the vacuum is still there) partly because of the new and intolerable level of pollution (the situation is rapidly deteriorating). The movement was defeated—as a mass movement, I mean—by its inadequacy. . . .

“Here I come to a philosophical aspect of the matter. The problem of induction as a problem of empirical justification of action, social or private, is insoluble. We never know whether we are too slow or too fast in implementing an innovation. Different societies have standards regulating all this, and the standards are regularly tested and altered. But some innovations are not subject to standards, some standards vary greatly depending on the urgency of the situations. Military establishments take greater risks in testing and implementing innovations since they fear the greater risk of unpreparedness; market mechanisms push corporations to similar considerations. Pilots say runways only improve after blood is spilled on them; because, I presume, runways conform to standards but standards are inadequate and improve too slowly.

“That population control and pollution controls are matters of emergency is commonly admitted. That standards to deal with them are either grossly inadequate or nonexistent is likewise admitted. The mass movement can come in

here, and of course it will make mistakes like any other movement, and more. This should be no discouragement if it is *a priori* admitted beforehand, especially since the mass movement, being so spontaneous and almost entirely amorphous, can be more flexible than any organized body.

3. *The Technological Apocalypse*

“The wedding of mass movement new style and apocalypse new style into the ecological movement was as obviously propitious as ill-fated. As the first phase is complete we may try to consider or plan the next one.

“Apocalypse, meaning revelation, has traditionally meant a prophecy of doom, especially war, famine, and pestilence, perhaps also the end of the civilized world or of humanity or of earth as a whole. The ecological apocalypse is not new, and its modern prophet was Aldous Huxley, who wrote about it extensively in his *Point Counter Point*, in his *Ape and Essence*, and elsewhere; and also Julian Huxley, one of the most ardent campaigners against population explosion. But the discussion on whether technological progress as a whole is really progress is old. That is to say, admitting that every innovation is implemented because someone finds it worthwhile; and assuming the questionable thesis that my progress is not your regress; even then we can ask, is it on the whole worthwhile to introduce technology or not?

“We do not have the intellectual tools to ask such a question, since we study questions within intellectual frameworks, and frameworks take for granted answers even to some global questions. Indeed, intellectual frameworks constitute sets of answers to some given questions such that they generate some research programs, as I have explained elsewhere.

“Also, the question is of no practical importance. We simply cannot stop the march of technological progress. We can, at most, impede it.

“Moreover, as we cannot stop the march of technological progress globally; it is mere folly, an ostrich policy, to try to impede it or ignore it locally. One who eats natural foods but breathes polluted air and drinks polluted water is but a fool. And soon all air on earth may be polluted.

“This, however, is not to say it is never wise to impede progress. Quite possibly the success of the American ecological movement to impede the implementation

of supersonic civil aviation will lead to the evolution of better techniques that will not risk the environment more than subsonic flights do. No doubt, the rapid implementation of Western technology in underdeveloped countries with little or no planning causes severe cultural lags there, creates new tensions there, and so on. But I cannot enter all this now. Rather, let me say some general things about the growth of technology and its social implications. . . .

“. . . [W]hat is characteristic of today’s ecological crisis is, first of all, that on the national scene of every advanced country where it is a problem, it sharpens the conflict between production and preservation: while production is run by a well-organized capitalist market, preservation has no spokesmen of any force; and second, the crisis has become international or global, with no spokesmen for global interests to speak of. . . .

“When we come to the global level we are stymied. The founders of the ecology movement felt this very keenly. Some ecologists said explicitly that it is a scandal that Western governments allowed themselves to offer Ceylon large-scale means of over-coming epidemics, especially malaria as it happens, without coupling the offer with some means of population control. I find such comments both unintelligent and immoral. But I mention this to illustrate the low level of present ability to cope with the problem of population control on the global level.

“Some ecologists said zero population growth begins at home, on the family and the national level. But suppose the West keeps its level constant, or suppose Protestants keep their level constant, while the others grow. This will cause a rapid demographic trend that not all will welcome. For my part, I suppose there is much consolation in those enlightened people who would rather teach than breed. But I cannot simply see here a solution to the global problem—at least not without an extensive debate leading to a radical change in attitude, i.e., at least not without a mass movement. But sooner or later the agenda will be: how can one country influence progress in another and how can global planning develop soon and effectively to avert the coming apocalypse?

“Obviously, the laissez-faire theory allowed first nineteenth-century imperialism and later the tendency of governments of advanced countries to help governments of backward countries consolidate, no matter how backward these were, so as to be able to trade with them, to invest there, etc. The paradigm is the oil-producing countries, and it is really of no import at all whether the official organization in charge of the process is a Western company, a joint Western and

local concern or a local concern. The local elite is backward and prevents progress at home; it sells oil for some luxury items and for arms and for almost no goods and services to distribute to the large masses which are still mostly illiterate.

“The ameliorating move of the West, the programs of foreign aid, failed since they were purely economic: they took no notice of local impediments to economic progress and so failed even economically; moreover, they were based on the hope that in the long run economic progress will bring all sorts of progress. Perhaps; but the long run is too long. I shall leave this topic referring the interested and concerned to D. V. Segre’s excellent *The High Road and the Low*, London, 1974.

“One still better move was the Peace Corps and Care and their like. They failed; the unenlightened leaderships of backward countries found ample reasons, good, bad and indifferent, to put an end to such programs. But there are countries that might still welcome the Peace Corps, perhaps if and when jointly organized; there are countries that can be made to accept the Peace Corps; and there is the Bourguiba plan of shipping masses of students from backward countries to be trained in highly skilled jobs in the advanced countries. These things need more thinking out and strong pressures on governments—and since time is short, teach-ins and mass movements may be called for.

“There is, however, no substitute for proper world coordination of world population growth, of world economic planning, and of worldwide arms control. The failure of the United Nations organization, even in the attempt to control nuclear proliferation, is a fact. . . .

“But I must leave it here: I have already entered deeper into politics than some might deem in good taste when in a symposium on the philosophy of technology. So let me just say, no program for a philosophy of technology can be viable unless it is highly political in orientation: the result of two centuries of effort in the direction of physical technology without attention to social and political technology have caused a lag, and the lag must be filled as rapidly as possible, since time is short and the catastrophe may be around the corner. All I can pose today is the questions on tomorrow’s agenda for philosophy of technology. A major one is, I say, Can there be democratic mass movement for world planning and peace?”

Next comes Agassi's attempt to provide a framework in *Research in Philosophy & Technology*, vol. 6 (pp. 55–56):

Technology As Both Art And Science

Preface And Summary

“The word technique comes from the Greek word, *techné*, whose Latin cognate is *ars*. As often as we hear of surgery or of acoustic engineering or of any sort of a technique that it is an art, we also hear that it is a *scientific* art or technique. In fact it is both art and science, in the sense that some techniques are scientifically attested, some not, as well as in the sense that every item of our contemplation has both unique aspects, not given to science, as well as repeatable ones, subject to scientific investigation.

“This leaves open the question. Is technology as cumulative as science? In a sense science is indeed cumulative—though not in the traditional sense which most modern philosophers of science have assumed. In the sense in which science is cumulative, technology is not. Even so, a scientific theory of given techniques may succeed in rendering that technology cumulative.

“Applying all this to scientific method, one may wish to make methodology scientific and thus unite science and technology. Such ventures are not without promise, and at times they may produce exciting results; yet the project will be regularly threatened by unforeseen discoveries and by unforeseen inventions which will invite renewed efforts at integration. As uniqueness is inexhaustible, unifications by repeatable means may forever be met by diversification due to uniqueness. Science and art thus are competitors and partners in one and the same process.”

Finally, Agassi's applications in *Research in Philosophy & Technology*, vol. 7 (p. 194):

Political Philosophy And Its Implications For Technology

“What has political philosophy to say to those concerned with the use of spreading technological advances for the relief of urgent global problems? What is the proper philosophy for technology transfer? . . .”

And in the Philosophy and Technology (Kluwer) series, vol. 5 (p. 277):

Technology Transfer To Poor Nations

“The present essay belongs to the realm of global politics. It takes it for granted that the cleavage between poor nations and rich nations is not merely the problem of the poor nations but of the whole human race since it threatens the very survival of mankind, and in many ways and at the very least, it affects adversely the quality of life everywhere on earth. We are generally sufficiently aware of this fact so as to conclude that foreign aid is not the preference of the interest of the poor nation over the interest of the rich nation, but rather an act well within the national interest of the donor as well. This was epitomized by John F. Kennedy’s edict: we can afford to offer foreign aid and we cannot afford not to. Also, Kennedy was aware of the difficulty of granting foreign aid to the poor nations on a permanent basis, like a rich philanthropist’s regular aid to the poor as practiced well within all traditional societies; hence, foreign aid must aim at helping poor nations achieve self-sufficiency, i.e., learn to reach high levels of production so as to be free of the need for aid. This, of course, means the transfer of technology.”

In terms of *controversies* here, Agassi is not explicit about all his opponents. But the thrust is clear. He is *activist* where he thinks (all?) other philosophers of technology are not. In one case, where Michalos is active within a socialist party, Agassi seems suspicious of party politics as less likely to succeed than mass movements. Next, Agassi more or less dismisses out of hand the then-traditional *idealist* philosophers of technology, such as Heidegger, as ostriches.

And he says the same about narrow positivist philosophers of science—the *science* quadrant. This puts Agassi in opposition to more or less everyone in all parts of the philosophy of technology sphere—where (following Popper's lead in challenging everyone) he thinks he ought to be.