



The Physicists at Fifty

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Fifty years ago, on February 21, 1962, a Zurich audience witnessed the premiere of *Die Physiker* (*The Physicists*), a grotesque tragicomedy by the Swiss playwright Friedrich Dürrenmatt. By the end of 1963, *The Physicists* had been performed worldwide, from Johannesburg to Lima, from Mexico City to London. It arrived in New York the following year. Ever since, the play has been part of the canon of high school literature classes in Switzerland, Austria, and Germany, where it is also a favorite choice for high school theater groups and one of the most-performed dramas over the last half century.

The Physicists is a complex drama, comprising in its two brief acts masterfully employed masquerade, intricate inversions, and a hero's demise after the fashion of classical tragedy. The play touches on many themes that were of importance to postwar audiences and readers, including institutional psychiatry and the way society deals with madness. But the play is most compelling

because it raises questions of lasting importance—matters of science, ethics, and responsibility. With eloquent brevity, Dürrenmatt's play reveals the paradox of the twentieth century: at the supposed apex of reason and science, and under the banner of scientific and social progress, man became guilty of some of the most barbaric atrocities ever committed. Recent breakthroughs in nuclear physics were testimony to human ingenuity and scientific advancement, and at the same time allowed for weapons of unprecedented destructiveness. *The Physicists* casts crippling doubt on the likelihood that either scientists or politicians would responsibly wield the power of science—a message well suited for its postwar audience and of lasting relevance today.

The entire play takes place at the private sanatorium Les Cerisiers (The Cherry Trees), the home of “the mentally disturbed elite of half the Western world” under the care of the famous Fräulein Dr. Mathilde von Zahnd. We learn early on that the

hunchbacked doctor is the only sane descendant of a prestigious family. Her grandfather was a general, her father a privy councilor, her uncle a chancellor. At least one aunt and a cousin are in the madhouse, under medication.

Housed in their own mansion on the sanatorium grounds, three physicists, usually harmless and lovable, have recently been involved in a terrible disturbance. Three months before the play begins, one of them, a nuclear physicist named Herbert Georg Beutler, who believes himself to be Isaac Newton, strangled a nurse. Now, another nuclear physicist, Ernst Heinrich Ernesti, who claims to be Albert Einstein, has done the same. The play begins with a crime scene investigation—the murderer a mad scientist.

But to call Einstein a “murderer” would perhaps be too cruel. After all, as the hospital staff reminds the police inspector repeatedly, the man is mentally ill and therefore innocent before the law. Instead of arresting him, the inspector lets him play his violin to calm his nerves—Beethoven’s *Kreutzer Sonata*. This musical choice echoes Leo Tolstoy’s novella by that name, a polemic against carnal passions and an argument for chastity: a husband murders his pianist wife in jealous rage after she has fallen in love with the violinist with whom she performed that same sonata.

With Einstein playing in the background, Newton explains to

the inspector that he, Newton, had killed the nurse three months ago because they had fallen in love with each other. “My job,” he says, “is to think about gravitation, not to love a woman.”* It is Newton who informs us that Einstein is playing the *Kreutzer Sonata* by commenting that Newton himself would play it with “a good deal more dash” than Einstein. We are led to believe, at this stage in the story, that Newton’s murderous act arose from a similar “dilemma” to Einstein’s: for both, love got in the way of their work as physicists. But given their mental state, we cannot quite take them seriously.

The third physicist, and the protagonist of the play, is Johann Wilhelm Möbius. This physicist apparently suffers from the delusion that King Solomon appears to him in visions, revealing the secrets of the physical world. Although Möbius—unlike the other two patients—does not believe himself to be a famous scientist, Dürrenmatt clearly named the character after the nineteenth-century German mathematician August Ferdinand Möbius, who discovered what is called the Möbius strip, a looped, ribbon-like shape

* AUTHOR’S NOTE: Most quotations from *The Physicists* in this essay are taken from James Kirkup’s fine 1964 translation. However, when Kirkup’s translation diverges significantly from Dürrenmatt’s text, I have substituted my own translation from the original.

whose apparently opposite surfaces form only one side. This turns out to be the interpretive key for the paradoxical play: the two sides turn out to be an illusion; the lovers are also the killers.

Möbius appears for the first time in the play when his ex-wife, by now remarried, visits with their sons and her new husband to say a last good-bye before they leave for the Mariana Islands in the Pacific Ocean. The visit ends in disaster: Möbius drives out his family as he feverishly recites a disturbing psalm given to him in a vision by Solomon, telling of the gruesome deaths of astronauts in outer space.

But our first impression of a mad Möbius is immediately put in question. A nurse, Monika, is convinced he is not insane, and as she calms his spirits after his fit she confesses her love for him. She had even requested and received Dr. von Zahnd's permission for Möbius to leave the madhouse with her forever. Möbius, becoming further agitated, urges her to leave: "I never want to see you again." When she refuses, he strangles her—and Einstein begins to play his violin: Fritz Kreisler's *Schön Rosmarin* (*Lovely Rosemary*).

This time, the musical echoes are much subtler. Kreisler (1875–1962) was a Viennese-born violinist and composer personally acquainted with the real Albert Einstein from the time they both spent in Vienna, and Einstein as an amateur violin-

ist played privately with Kreisler. Kreisler wrote several pieces in the style of the Baroque and Classical masters, but claimed the works were in fact those masters' long-lost creations. On his sixtieth birthday in 1935, he revealed that he had fooled the public for decades.

Schön Rosmarin is one in a trio of old-Viennese waltzes, together with *Liebesfreud* (*Love's Joy*) and *Liebesleid* (*Love's Sorrow*), that Kreisler for some time falsely presented as transcriptions of compositions of an early nineteenth-century composer. The play-Einstein's performance of songs whose origins are wrapped in deception invites us to suspect the unsuspected: nothing here is as it seems.

In *Schön Rosmarin* we hear flirtatiousness together with heartache, joy followed by tension that is resolved with a return to the original theme. In Kreisler's trio of waltzes, *Schön Rosmarin* sits between *Love's Joy* and *Love's Sorrow*, which suits its ambivalent mood—and underscores the ambivalence in Möbius's character.

When the inspector reappears for another halfhearted investigation, the tune of the *Kreutzer Sonata* is now coming from Einstein's room. (I am here following the German edition of 1980. The original 1962 edition has Einstein at this point play *Liebesleid* instead of the *Kreutzer Sonata*. In both editions, the play ends with Einstein playing *Liebesleid*.) Möbius explains in front of the inspector

that by killing Monika he was simply following orders: “King Solomon ordained it.” “I have discovered three murderers,” says the relieved inspector, “whom I can, with an easy conscience, leave unmolested. For the first time Justice is on holiday—and it’s a terrific feeling.”

So Möbius goes free—but becomes a captive nonetheless: At the command of the public prosecutor, new male nurses have turned the asylum into a prison. And worse yet, Newton and Einstein—now alone with Möbius—reveal that they too have been following orders. They are in fact both physicists working as spies in the secret service of opposing superpowers, tasked with the mission of stealing Möbius’s ingenious works: Newton is after his solution to the problem of gravity; Einstein wants his unified field theory, the “theory of everything” that the real Einstein searched for during much of his later career. Möbius had also developed, “out of curiosity, as a practical corollary to my theoretical investigations,” the Principle of Universal Discovery, presumably a system by which all possible scientific discoveries could be made. No wonder the two superpowers (implied to be the Soviet Union and the United States) mark Möbius as the most important physicist in the world.

Möbius, fully aware of the immeasurable power of his discoveries, feared their abuse so much that he chose the insane asylum as the only

place in which he could protect his work and avoid risking the destruction of mankind. Monika posed a threat because she was convinced of his sanity and the success of their future together beyond the safe walls of the madhouse. In his eyes, her love and life were necessary sacrifices for the greater good.

The other two deaths were likewise “necessary.” Newton’s and Einstein’s lovers threatened their missions, but the physicists understood that “orders are orders” and that they “couldn’t do anything else” but kill them. These phrases echo the Nazi war criminals in the Nuremberg Trials providing the same explanation in their defense: *Befehl ist Befehl*. The two superpowers alarmingly resemble the Nazi commanders in their willingness to sacrifice the innocent in the name of progress and the interests of the state.

But, despite these sacrifices, the plans of all three physicists fail miserably. Out of fear of the police, Möbius has already burned all his notes, leaving Newton and Einstein to compete in persuading him to join their respective governments. Frustrated with the fact that neither side can guarantee him both freedom in his scientific pursuits and responsible use of science, Möbius insists on staying in the madhouse. With the argument that “either we stay in this madhouse or the world becomes one,” he manages to convince the other two to join him in his self-

imposed hermitage in the asylum.

However, in spite of Möbius's success in persuading the two physicist-spies to sacrifice their freedom to ensure the safety of mankind from his discoveries, his dangerous knowledge still manages to find its way into the world. For ironically, the person running the mental asylum turns out to be an insane tyrant who actually suffers from the delusion that Möbius feigned, truly believing that King Solomon has commanded her to rule the world using Möbius's discoveries. Dr. von Zahnd had made copies of all of Möbius's notes before he burned them; and, she tells the physicists, she had orchestrated the three murders: "I had to render all three of you harmless. By the murders you committed. I drove those three nurses into your arms. I could count upon your reactions. You were as predictable as automata. You murdered like professionals." To the public, their insanity was a proven fact, so no attempt of theirs to expose Dr. von Zahnd would succeed.

Dr. von Zahnd informs the physicists of how she will use Möbius's discoveries to dominate the world by applying them to industry. She has already established a large trust and founded multiple factories to exploit the Principle of Universal Discovery and to conquer both earth and space. The physicists' mansion, she says, is the "strong room" of her operation. While the domination of industry is Dr. von Zahnd's explicit

goal, Dürrenmatt also covertly indicates that Möbius's knowledge will be put to military applications. Just before she reveals her plans to the physicists, in the drawing room of the mansion she replaces the portrait of her father, the privy councilor, with that of her grandfather, the general. Placing the image of the general together with the physicists symbolizes the militaristic use of science that Möbius had feared.

In the 1964 version of *The Physicists* that Dürrenmatt directed for German television, Dr. von Zahnd's self-disclosure is fraught with references to Nazi Germany, perhaps the worst case of a military-industrial complex: To demonstrate the futility of an escape attempt, she orders the chief male nurse to turn on searchlights (resembling those used in concentration camps). With each appearance of the male nurses, their attire matches more and more that of SS officers, while Dr. von Zahnd—played by Therese Giehse, who also performed in the stage premiere of the play—in her last speech moves and sounds like Hitler did in his public addresses. She marches off before the nurses close the metal gate, which now traps the physicists.

The second act ends with Einstein's violin playing *Love's Sorrow*, a bittersweet piece that unites the joyful memory of love with the sorrow of love lost.

Einstein's final tune sums up the tenor of the play: the paradoxical unity of opposites. Dürrenmatt himself said as much in a list of "21 Points to *The Physicists*" that he appended to the end of the print edition of the play (Point 11: "It is paradoxical"). And in a 1990 speech he delivered at the presentation of an award for Václav Havel, Dürrenmatt discussed the concept of paradox, characterizing the grotesque as an "expression of the paradoxical, indeed nonsensical, state of affairs that comes about when an essentially rational idea...is transplanted into reality...Man makes everything into a paradox; meaning turns into absurdity, justice into injustice, freedom into bondage, because man himself is a paradox, an irrational rationality." The "essentially rational" idea he had in mind was communism, but the larger point in Dürrenmatt's drama seems to be, as Ross Benjamin writes, to express the "timeless experience that the century made devastatingly palpable: the experience of human ideals shipwrecked on the shoals of human reality."

Möbius embodies this precise experience. His utopian dream of safe and certain scientific progress in isolation from messy and uncertain politics became the nightmare he tried to escape: the abuse of his science by nations and empires in pursuit of political power. At first glance, the play seems to suggest that Möbius never had any hope of success, and

that much like the ancient tragic hero Oedipus, Möbius is in the iron grip of fate. The ninth of Dürrenmatt's 21 Points explicitly makes the connection:

Human beings proceeding by plan wish to reach a specific goal. They are most severely hit by accident when through it they reach the opposite of their goal: the very thing they feared, they sought to avoid (i.e. Oedipus).

The German spelling and pronunciation, Ödipus, suggest a parallel to Möbius (just as there are resemblances between the real names of the two spies: "Newton" was really named Kilton and "Einstein" was really Eisler). Just as happened to Oedipus, Möbius's heroic effort to avoid disaster plunges him straight into it. Any point of departure on the Möbius strip soon enough becomes a point of return, even if one believes oneself to be on the opposite side of the strip.

However, Möbius does not fail for simply fatalistic reasons. Dürrenmatt's Points 16 through 18 form a concise argument about the nature of ethical responsibility over science that also hints at Möbius's failure in the play:

16. The content of physics is the concern of physicists, its effect the concern of all men.

17. What concerns everyone can only be resolved by everyone.

18. Each attempt of an individual to resolve for himself what is the concern of everyone is doomed to fail.

Against these ideas, Möbius explains to Einstein and Newton that “the decision we have to make is one that we must make as physicists; we must go about it therefore in a scientific manner.” But the decision the physicists must make is not one that can simply be made by physicists, since it is concerned with the effect, not the content, of the science. Despite his opposition to the other physicists, Möbius shares a very significant agreement with them, namely his refusal to let the ethical questions before them be a concern of the people.

Newton, for his part, seems untroubled about ethics altogether and probably represents the Western standpoint: “It’s nothing more nor less than a question of the freedom of scientific knowledge.... Whether or not humanity has the wit to follow the new trails we are blazing is its own look-out, not ours.” But, when pressed, he admits that in his country scientists work for the state, which presumably takes on the role of ethical decision-making in science. Einstein, who sounds more like a Communist, bluntly admits that he is above all committed to his state. “If we are physicists, then we must become power politicians. We must decide in whose favor we shall apply

our knowledge, and I for one have made my decision.”

In contrast to his physicists, Dürrenmatt argues in his *Points* that if a problem concerns everyone—as the potential destruction of humanity through the power of science most certainly does—then everyone needs to be part of the solution. Responsible ethical choice regarding the use of science can be neither the sole responsibility of the scientist, as Möbius believes, nor the sole responsibility of the government, as Newton and Einstein advocate.

But the action of the play reveals an objection to Dürrenmatt’s imperative that the ethical and political problems of physics be solved democratically. Möbius isolates himself precisely out of fear that the world will abuse his science—and this fear is entirely justified, for Dr. von Zahnd *will* abuse it. We can assume she would have done the same if Möbius had openly published his discoveries, entrusting to the people the responsibility of wisely using those discoveries. At face value, it seems the democratic solution—“what concerns everyone can only be resolved by everyone”—is simply the opposite of Möbius’s choice, which, according to the nature of the paradox, would result in exactly the same catastrophe. We may add to this a second objection, one whose principle Dürrenmatt himself stated in his 1990 speech honoring Havel: “Where everyone is responsible, no

one is responsible.” Möbius’s distrust of the public, we can surmise, might have arisen in part from the much-observed fact in human affairs that the larger the group responsible for the same object or cause, the more likely it is that the individual will neglect it.

These concerns, however, are not fundamental objections to Dürrenmatt’s democratic solution as much as they are warnings that the solution is incomplete. The necessary counterpart to democratic engagement is virtuous political leadership—and this was, as we shall see, another target of his criticism.

In the critical scene in which Newton and Einstein vie for Möbius’s favor in order to win him over to their respective sides, they both have to admit that in both governments scientists are in bondage to military concerns. This leads Möbius to conclude, “Extraordinary. Each of you is trying to palm off a different theory, yet the reality you offer me is the same in both cases: a prison. I’d prefer the madhouse. Here at least I feel safe from the exactions of power politicians.”

Subtly but unmistakably, Dürrenmatt is suggesting that both superpowers sacrifice scientific freedom for the interests of the state, particularly by providing weapons for the military. Möbius’s concerted effort to escape this reality leads him into its most nightmarish fulfillment. When

Dr. von Zahnd has the portrait of her grandfather, General Leonidas von Zahnd, moved to the physicists’ mansion, she mentions that “he loved heroic deaths and that is what there have been in this house.” The general’s name alludes to Leonidas I, the famed Spartan king and hero who assisted the Greeks against an attack by the Persian Empire. At the Battle of Thermopylae in 480 B.C., Leonidas, along with three hundred Spartans and several hundred other allies, opted to withstand the onslaught of the Persian army, and in so doing chose certain death in battle. Perhaps Dürrenmatt is suggesting that under Dr. von Zahnd, rather than being safe and free as Möbius would have preferred, science will demand the ultimate sacrifice of some for the benefit of the many in the service of arms.

This grim vision of science in bondage to the state and its military conjures up images of government-run laboratories under Soviet Russia and the Third Reich. Dürrenmatt implies that there is little difference between the regime that promises freedom for science and the regime in which science bows to chancellors and generals.

Dürrenmatt was not alone in voicing criticism of the role of science in Western democracy in the early 1960s. In the same month that Dürrenmatt began writing *The Physicists*, January 1961, President Eisenhower delivered his famous farewell address. In it, he warned of two

particular threats to the American political system that closely parallel Dürrenmatt's nightmare. First, "we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist." The now-permanent coalition of the military and mass industry, Eisenhower observed, was at that point unprecedented in American history. One might say that a military-industrial complex (the phrase has been in common parlance since Eisenhower used it) that exists for the purpose of being ready for war at all times leads to a situation in which even peace implies a state of war.

Of course, it is the ever-increasing resources of science and technology that make possible the maintenance of such a military-industrial complex. Dr. von Zahnd tells the physicists at the end of the play that she has already founded "enormous plants and factories, one after another," and that she has built up "a giant cartel." The goal of these efforts, she explains, is to exploit Möbius's Principle of Universal Discovery. If the painting of General Leonidas hints that science under Dr. von Zahnd will serve the government in developing weapons for the military, her words clearly indicate that she is eager to set up the military-industrial complex of whose "unwarranted influence" Eisenhower warned.

Eisenhower's suggestion for protecting against the dangers of the military industry is like Dürrenmatt's democratic solution. As Eisenhower puts it, "Only an alert and knowledgeable citizenry can compel the proper meshing of the huge industrial and military machinery of defense with our peaceful methods and goals, so that security and liberty may prosper together." Everyone must be part of this solution. But Dürrenmatt reminds us that it is a grotesque world where such a "military machinery of defense" is the norm, where competing superpowers employ knowledge of nature for the potential destruction of man on a mass scale. He leads us to wonder if, after the tragedies of the two world wars and their Cold War aftermath, the democratic ideals of freedom and peace are still realistic possibilities.

The second threat of which Eisenhower warned is the "technological revolution," which, he observed, largely gave rise to the first threat. Research has become so important and expensive in this age of radical technological advancement that the federal government has come to direct and fund large parts of it. In consequence, "the prospect of domination of the nation's scholars by Federal employment, project allocations, and the power of money is ever present—and is gravely to be regarded."

We should remember at this point that Eisenhower saw both these

threats as domestic, not menaces from abroad. In other words, Dr. von Zahnd's project of subjecting scientific progress to government domination was for Eisenhower a real and present danger that the American people have to counter in their own political leadership. There is however, he warned, an "equal and opposite danger" too, namely that "public policy could itself become the captive of a scientific-technological elite." The meshing of politics and science creates the ambivalent situation in which it is not easy to tell who is master over whom, and in which either condition poses possible threats to democratic principles of freedom and peace.

And yet, Dürrenmatt's point could not have been to advocate unguided and ungoverned scientific advancement. On the one hand, the democratic principle—"what concerns everyone can only be resolved by everyone"—operates as a check on the scientist developing his own solution to complex ethical problems. On the other hand, the fact that Möbius tried to escape government bondage and fell into the hands of a tyrant is at once a criticism of government abusing science for its own ends, and an exhortation for political leadership to govern scientific progress, restraining its potential for unethical or dangerous overreach.

The need for political leadership to govern science—especially

in ways that protect human dignity—becomes clearer if we revisit the ethical decisions Möbius and his colleagues face. In order to protect their respective missions, they kill their nurses. Newton and Einstein do so at the command of their governments and consider themselves relieved of any ethical responsibility for their act: "Orders are orders." But Möbius understands that all three of them are murderers:

Anyone who takes life is a murderer, and we have taken life. Each of us came to this establishment for a definite purpose. Each of us killed his nurse, again for a definite purpose. You two did it so as not to endanger the outcome of your secret mission; and I, because Nurse Monika believed in me.... Killing is a terrible thing. I killed in order to avoid an even more dreadful murder. Then you come along. I can't do away with you, but perhaps I can bring you round to my way of thinking. Are those murders we committed to stand for nothing? Either they were sacrificial killings, or just plain murders.

Shortly thereafter, the three toast to their agreement to stay in the madhouse, each of them remorsefully confessing to their dead nurses, "You had to be sacrificed." The implicit reasoning seems to be that killing a few is justified, even necessary, if it ensures the benefit of the many, and—perhaps more importantly to

the physicists—the progress of science, a goal Möbius articulates in an earlier speech. The perversity of this logic is revealed in the end when we learn that these were the principles that the insane Dr. von Zahnd had also followed. She sacrificed the nurses to trap the physicists, so that she could ensure scientific progress in the sacred world order given to her by King Solomon.

By contrast, Dürrenmatt in his 1990 speech praises Václav Havel for his leadership in demanding “human rights, daily bread for everyone, equality before the law, freedom of thought and speech, freedom of assembly, transparency, the abolition of torture, and so forth.” These, he says, are “insignia of [man’s] dignity, rights that do not violate the individual but make it possible for him to live together with other individuals.”

By the negative example given to the ethics of sacrificing the few for the putative greater good, *The Physicists* urges political leadership to protect the dignity of the individual and the sanctity of life. The physicists sealed their fate by their failure to act in love toward their nurses. The nature of this missing love is not *eros*, but the simple yet profound respect and kindness that we owe another human being, whether in *philia* (friendship) or *agape* (charity in the traditional sense of love for one’s neighbor).

Here again we find that a contrast between two opposites and their paradoxical conflation reveals the charac-

ters’ failure to see the third and right option. Einstein’s violin makes this clear. Choosing to play the *Kreutzer Sonata* each time the inspector visits reminds us of Tolstoy’s story and the choice it offers: we either give in to the carnal and irrational passion of love and reap the disastrous results, or we choose chastity. Like the husband in Tolstoy’s story, the physicists choose to murder their loved ones. We do not find in the physicists’ reasoning a consideration of fundamental kindness, much less of the loving commitment that builds on such kindness. Möbius’s former wife and her new husband show this sort of love toward Möbius, but they take it away with them to the farthest end of the world. We also hear it in the words of Monika—and it dies with her.

Even the friendship that binds the physicists in their agreement to stay in the madhouse stands on rather hostile ground. Not only have all of them already sacrificed human life to safeguard their scientific and political ends, but the inability of Newton and Einstein to enlist Möbius with either of their governments leads them to choose violence toward each other. “I’m sorry this affair is moving to a bloody conclusion,” Einstein says to Newton after both get their weapons. “But we must fight it out, between us and then with the attendants. If need be with Möbius himself. He may well be the most important man in the world, but his manuscripts are

more important still.” Their lives are spared only by Möbius disclosing that he has burned his notes. The play appropriately ends with Einstein’s *Liebesleid*, mourning the death not only of loved ones but more so of love itself as the heartless tyrant begins her rule.

This imperative to love your neighbor should not be taken as utopian romanticism. To do so would be to miss the particular significance of love for one’s neighbor in the scientific-technological age. Whereas Dürrenmatt depicted this significance by showing us the effects of its absence, Gabriel Marcel, a contemporary French philosopher and playwright, articulated it directly and in positive terms in *The Decline of Wisdom* (1954). In this short treatise, Marcel argues that the trend of finding technical solutions to problems of the physical world has been extended to human beings so that the individual is now “a unit whom it is possible and right to deal with as with all the other units in his category.” Marcel is careful to underline the positive value of technical progress, but denounces the reductionism that interprets all areas of life in a primarily materialist way. “Life is no longer, as it were, conceived except in biosociological terms, that is to say, as a process whose physico-chemical conditions are claimed to be strictly and objectively definable and which exists in view of a given task which relates to the collectivity.” The way

in which this principle of “dehumanization,” as he calls it, operates in the experience of the individual becomes clearer in a passage from Marcel’s *Man Against Mass Society* (1951):

In our contemporary world it may be said that the more a man becomes dependent on the gadgets whose smooth functioning assures him of a tolerable life at the material level, the more estranged he becomes from an awareness of his inner reality. I should be tempted to say that the center of gravity of such a man and his balancing point tend to become external to himself: that he projects himself more and more into objects, into the various pieces of apparatus on which he depends for his existence. It would be no exaggeration to say that the more progress “humanity” as an abstraction makes towards the mastery of nature, the more actual individual men tend to become slaves of this very conquest.

Marcel claims that scientific-technological progress has given enormous power to humanity at large, especially to states, but at the cost of devitalizing the spirit of the individual. It is therefore at the level of the concrete, of the individual person, Marcel explains, that the spirit of dehumanization must be confronted. The remedy, he says, is love, not as an abstract principle of foolish romanticism, but as the gift of goodwill enacted in humility

toward one's neighbor. This humility is directly opposed to the pride of mastery of nature extended to control over humans that Marcel saw as an effect of the materialist thinking of twentieth-century totalitarian regimes.

By comparison, Dürrenmatt's nightmarish tragicomedy depicts the precise absence of this humble gift of love that Marcel urged his readers to enact. The physicists strive for the wellbeing of a state, or for humanity at large in the case of Möbius, but fail to act in goodwill toward the individual who is present before them. We encounter the same paradox in Dostoevsky's *Brothers Karamazov*, in which the elder Zosima tells the story of a doctor who says, "I love mankind...but I am amazed at myself: the more I love mankind in general, the less I love people in particular, that is, individually, as separate persons." The failure to love human beings as individuals is the starting point of *The Physicists* that ultimately ends with Dr. von Zahnd's tyrannical reign.

I don't start out with a thesis but with a story," announces the first of Dürrenmatt's 21 Points. The German word *Geschichte* (both "story" and "history") is conveniently ambivalent, suggesting as a historical reference point and origin for the drama the corrupted view of human life that treats the individual as a mere cog in the machine of the state, and individual life and spirit as

expendable for the scientific progress of the masses. But twentieth-century political ideologies that have capitalized on this view cannot be defeated by another mass movement that again absolves the individual of personal responsibility. In his 1990 speech, Dürrenmatt quotes his fellow playwright Havel, who was similarly skeptical that contemporary Western democracy and capitalism offer a true alternative to the ideologies of the masses:

In this whole static complex of petrified mass parties guided by no principle other than political efficacy, governed by professional apparatuses that relieve citizens of any concrete and personal responsibility, in all these complicated structures of secretly manipulative and expansionistic centers of capital accumulation, this omnipresent dictatorship of consumption, of production, of advertising, of commerce, of consumer culture, this endless flood of information—in all this, so frequently described and analyzed, one would be hard put to find anything like a perspective, a path on which man could find the way back to himself.

The history that serves as the starting point for the play incorporates another theme. In December 1956, Dürrenmatt published a review in the Zurich newspaper *Die Weltwoche* of a book titled *Heller als tausend Sonnen* (*Brighter than a Thousand Suns*)

by Robert Jungk, which recounts the story of the people involved in constructing the atomic bomb. Dürrenmatt highlights how Hitler's theory of races first destroyed the internationality of science, so that physicists suddenly found themselves pitted against each other. Out of a fear that Germany was constructing a bomb—which later turned out to be unfounded—Einstein recommended to President Roosevelt that the United States build one as well. Elite physicists failed, says Dürrenmatt, by not acting in unity and by delivering themselves up to politicians and military men in whose hands their theories became unstoppable once they had been uttered. "Now, nuclear power is at the disposal of those who don't understand it."

Scientists, Dürrenmatt says, reached a limit. He agrees with the comment of the mathematician David Hilbert that "physics has become too difficult for the physicists." Möbius echoes this sentiment when he explains to Newton and Einstein, "our knowledge has become a frightening burden. Our researches are perilous, our discoveries are lethal. For us physicists there is nothing left but to surrender to reality... We have to take back our knowledge and I have taken it back." But the insight Möbius gains after Dr. von Zahnd's self-disclosure is that "What was once thought can never be unthought."

Möbius thus looks like the real Einstein, in more than one sense:

When quantum physicists introduced the notion that chance, not strict causality, governs the mechanics of subatomic particles, that probability must take the place of certainty in our knowledge of the movement of the most basic constituents of matter, Einstein protested, "I cannot believe that God would choose to play dice with the universe." Until his death, he searched for a unified field theory that would give an ordered and certain account of the apparent uncertainty of subatomic matter and that would be in harmony with the lawful system of his own theory of relativity. In a 1979 speech commemorating Einstein's centenary, Dürrenmatt suggested that his failure to find a unified field theory might have actually been his most important contribution to physics. The comment reflects Dürrenmatt's Kantian epistemology, particularly the stance that reason never penetrates to an understanding of things *in themselves*. Einstein's failure demonstrates for Dürrenmatt this limitation of knowledge of an incomprehensible reality.

Möbius, however, succeeds in developing a unified field theory, which at first appears to be a heroic solution to the epistemological dilemma. Where Einstein failed, Möbius succeeds because his theory can account for the apparently accidental—yet Möbius himself, despite his intricate planning, comes by accident (or so it seems from his point of view) to be trapped by Dr. von Zahnd.

Biographer Peter Rüedi comments in his 2011 book *Dürrenmatt oder Die Ahnung vom Ganzen* (*Dürrenmatt: Or, the Idea of the Whole*), “It belongs to the paradox that is Dürrenmatt that his heroes (and he with them) founder not only in the world but also on it.” Human reality ultimately escapes Möbius’s rational grasp. He goes beyond Einstein in the realm of physics but faces the same unavoidable fate in human affairs.

Along with parallels to Einstein, Oedipus, and the original Möbius, there is yet one more figure represented by the fictional Möbius. At the conclusion, each of the physicists introduces himself to the audience with a brief biography—Kilton speaking as Newton, then Eisler as Einstein. But Möbius identifies himself as King Solomon, the “poor King Solomon” whose formerly great kingdom is now a wasteland.

Dürrenmatt’s deepest assessment of the modern scientist is embedded in this imagery of Solomon. The ancient king of the Hebrews, when asked by God what he would choose if he could have anything, chose wisdom and received not only that but also prosperity and longevity. The reputation of his wisdom and wealth spread to faraway lands and he became known as the wisest king of his time (1 Kings 3 and 10). Furthermore, Solomon built the temple that became God’s stationary dwelling place among His people (1 Kings 5–6).

Francis Bacon, that early father of modern science, takes up this image of Solomon for his own temple-like institution of a new science, which searches the deep mysteries not of God but of nature. In the dedication to his work *The Great Instauration*, Bacon urges King James of England to imitate Solomon “in taking order for the collecting and perfecting of a natural and experimental history... that so at length, after the lapse of so many ages, philosophy and the sciences may no longer float in air, but rest on the solid foundation of experience of every kind.” (The reference is presumably to 1 Kings 4:33, where Solomon is said to have spoken of various kinds of trees, beasts and birds, reptiles and fish.) In his story “New Atlantis,” Bacon envisions a temple of scientific learning meant to far transcend the wisdom of the ancients. He names the lawgiver in his story King Salomon and the secret laboratory Salomon’s House—after King Solomon, whose legendary scientific writings are actually intact in Bacon’s scientific utopia.

Dürrenmatt believes that Baconian optimism is impossible in the world inherited from the generation of Einstein, who in the play concludes his biographical sketch with the poignant words: “I love my fellow men and I love my violin, but it was on my recommendation that they built the atomic bomb.” He goes to his room to play Kreisler’s *Liebesleid* (“Love’s Sorrow”), which then provides the

background for Möbius's concluding confessional as "poor King Solomon." Möbius's image of Solomon builds on Bacon's but extends it to include the fuller, less hopeful Biblical account: after Solomon had accumulated wealth, wives, and weaponry beyond good measure, he turned away from God. The kingdom after Solomon split in two and subsequent generations experienced their fill of political conflict and folly (1 Kings 10–12). For Dürrenmatt, Möbius as Solomon represents the scientist whose knowledge entails power that splits not only atoms but the whole world.

But while Möbius perceives the resemblance between his foundering and Solomon's, he misses its actual

source and thereby reveals to us the final meaning of Dürrenmatt's critique in *The Physicists*. In Möbius's valediction delivered as "poor King Solomon," he declares that it was his wisdom that undermined his fear of God and ultimately destroyed his kingdom. He blames his very wisdom for his undoing. This points to Möbius's fundamental confusion: he mistook scientific *knowledge* for *wisdom*, when in fact true wisdom, including an appreciation for the centrality of human love in its many forms, was what Möbius direly needed. And so, too, do we.

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