

for the rest of this chapter I am basing my comments on the 'Berlin' version, in which each theme is richly intertwined.

'Not . . . but': 'a topsy-turvy world'

Brecht warned that the play is not primarily directed against the Roman Catholic Church, which represents authority, including 'present-day reactionary authorities of a totally unecclesiastical kind'.¹⁸ Nevertheless, 'this attitude implies no reverence for the church' and the church in *Life of Galileo* need not be regarded allegorically. For the play quite explicitly attacks the religious suggestion that faith is superior to knowledge, or even that it is a form of knowledge. Laughton's awareness of this caused him to press for cuts in lines that specifically target Catholicism; however, if we look to Marx's comments on religion we find passages that seem startlingly pertinent to the play as a whole:

The criticism of religion disillusion man so that he may think, act, and fashion his own reality as a disillusioned man come to his senses; so that he may revolve around himself as his real sun. Religion is only the illusory sun which revolves around man as long as he does not revolve around himself.¹⁹

In this article, Marx posits a set of inversions, as the 'inverted world' of religion is set on its feet and demonstrated to be the reflection of an oppressive society: 'illusions about their condition' are revealed as 'a condition that requires illusion'; 'imaginary flowers' that deck man's chains become 'living flowers' when the chains are cast off; the 'criticism of heaven' is revealed as the 'criticism of earth'.

Similar inversions run throughout *Life of Galileo*, implicitly and explicitly. Galileo's speech about the 'new age' in Scene One exults in the idea that one world order is being replaced by another, implicitly turned inside out:

. . . the old days are over and this is a new time . . . where faith has been enthroned for a thousand years doubt now sits . . . This has created a draught which is blowing up the gold-embroidered skirts of the prelates and princes, revealing the fat and skinny legs underneath . . . (p. 7)

Patricia Anne Simpson points out similar implicit inversions as images slide between allegorical and literal readings:

Galileo is precisely in the midst of a topsy-turvy world . . . which he himself has discovered to be upside-down . . . Throughout the play, the literalizations (or phenomenalizations) of figurative language determine the course of events. The light of knowledge (the position of the sun in the universe) is reversed by the knowledge of light (Galileo's scientific observations of the sun).²⁰



13 The Carnival scene (1978 production), depicting Galileo as monstrous 'Bible-basher'. (Photograph: Vera Tenschert)

While the church insists that its universal model has a material reality, Galileo reveals it to be an ideological construction. It reflects reality only in that it has been invented as a justification for it. Galileo's discovery demonstrates that what has seemed to be sanctioned by heaven is in fact imposed by men. The whole of the Carnival scene (Scene Ten) works on the basis of this inversion:

Up stood the learned Galilei
(Chucked away the Bible, whipped out his telescope, took a quick look at the universe.)

And told the sun 'Stop there.
From now the whole creatio dei
Will turn as I think fair:
The boss starts turning from today
His servants stand and stare.

(p. 83)

On the one hand, the ballad singer is ironic. If the old model of the solar system underpinned the medieval world order, why should not the new model imply its reversal? On the other, he comes close to suggesting that the new discoveries provide an authoritative model and a useful analogy for social change. It is perhaps not surprising (if, in Brecht's view, regrettable) that the scientist, Galileo, distances himself from such an unscientific reading.

As a scientist, Galileo rejects any theory that is incompatible with reality. However, the question of what reality is and how we might understand it, is not straightforward. Experience does not necessarily lead to understanding. It is necessary to use observation to form a hypothesis and to test this through empirical example, but this example might have to work through analogy, by isolating the significant factors under scrutiny, in order to extrapolate a principle. For example, in Scene One, Galileo uses first the stool and then the apple to represent the earth as he demonstrates the principles of its movement. 'Looking' at the world involves applying one's intellect; 'staring' is mere observation without analysis. Hypothesis, experiment and analogy are intimately related to and reliant on each other. Galileo posits universal laws and tests his hypotheses through measurable examples (such as the dropping of a stone). These measurements can then be used to predict the behaviour of other objects, such as the planets. Further observation confirms, disproves or modifies the law and may form the basis of further hypotheses.

In the context of this drama, some of Galileo's experiments gain a certain metaphorical force. He uses his experience of reality to justify his metaphors rather than (as in the church's case) vice versa.

This is best demonstrated by looking at examples of Galileo's imagery and metaphor. For example, Galileo carries around a stone, which he occasionally drops by way of satirical reference to those who refuse to believe their own eyes, who might try to deny the downward force of gravity. However, the dropped stone is also a reference to his theories of falling bodies ('falling bodies' being a phrase with dual meaning, as is the word 'gravity'). It is also 'a kind of code',²¹ since Galileo's theory of falling bodies established principles that were necessary for an acceptance of the earth's movement through space. It thus becomes a way of quietly declaring 'and yet it moves'.

In another instance, Galileo describes the sun as being 'a golden motor' rather than 'a coat of arms'. By exchanging the terms he is implicitly allying the sun with the industrial world of the workers rather than with the aristocracy. Yet while the coat of arms is a metaphor, the image of the motor is not, or not entirely, since the sun does function as the mass whose gravitational pull keeps the earth in its orbit. His description of the sun as a 'golden motor' is both a symbol and a demonstration of a mobile universe of cause and effect.

His image of the oyster, whose pearl is created through sickness and suffering, is a slightly different example, as this meticulous observation becomes an analogy for the peasant's condition. It represents another inversion, this time more explicitly one of value; the pearl is devalued in favour of the unproductive oyster, thanks to a superior understanding of the natural

world. The parallels between the oyster's poisoned productivity and that of the peasants are multiple and complex, yet clearly drawn.

None of these images could be described as 'value-free'; however, Galileo's moral judgements are usually presented as self-evidently arising from an accurate analysis of the world. One reason why the scene with the Little Monk is vital is that the Monk posits that, rationally, there might be a superior moral position that would be distinct from, and even outweigh, a reliance on factual knowledge. Galileo argues (eloquently) that in this case an accurate understanding of the earth's motions is likely to open up a better world for the peasants and not to disempower them. He does not entirely answer the challenge to his belief that the pursuit of knowledge is necessarily a good thing in itself. The character of Galileo and, indeed, the play as a whole seem ultimately torn between upholding this belief and simultaneously demanding an idealistic commitment to improving the human condition – a commitment that is arguably not a scientific, or even a rational, necessity.

It does seem clear, however, that Galileo's interpretation of the world is based on observation, not on illusion. Brecht famously had a sign in his study that quoted Hegel: 'The truth is concrete.' The relationship between rhetorical image and reality is not just a matter for science but also a matter for literature. And if Brecht is a scientist among poets, Galileo is a poet among physicists, using his acute understanding of the material world to unpick the metaphors humanity lives by, just as his experimental data lead to new hypotheses. He specialises in an analysis of the word as it slips between literal and figurative readings. The relationship between object and image is subject to rigorous testing and tasting: 'He picks good words and tests them like a spice.'²²

'Both . . . and': 'the action and reflection of men upon their world'

Brecht's theatre is 'Galileian',²³ in that each scene, or even gest, is a carefully chosen set of circumstances that demonstrates a principle, with the force of one of Galileo's experimental analogies. Galileo's mode of teaching is Brecht's own and, importantly, it is not the content of that teaching that is significant, but the transmission of a methodology – the invitation to think for oneself and develop new examples through a fusion of theory and observation. Here Brecht and his character prefigure Paulo Freire's advocacy of a 'problem-solving pedagogy' rather than one in which knowledge is deposited in the pupil, a system Freire compares to 'banking'.²⁴

When working on the Berlin production, Brecht asserted that the most important line in the play is the one where Galileo says that the point is not

to stare,
not to see.
↙

Alvin Gouldner identifies a tension between 'scientific' and 'critical' Marxism, which he suggests is integral to Marxism as a whole:

Scientific and Critical Marxism are divergent paradigms because Marx's 'science' is especially concerned to discover laws independent of human will and which cannot be suspended by science itself, while his 'critique' is concerned to exhibit the manner in which outcomes depend on human efforts. His science's standpoint, then, is deterministic and structural; his critique's standpoint is voluntaristic. Science is generally concerned with the internal cultivation of technical knowledge. It does not make focal the 'command' implications of what it 'reports' and (in August Comte's words), neither 'praises nor blames' events. Critique, however, is concerned with interpreting events in terms of values that are not merely technical and it thus works at the interface between a technical specialty and the larger, encompassing culture.²⁸

The figure of Galileo is caught between the two. Not surprisingly, he tends towards the 'scientific' viewpoint: if the truth can be known, the revolution will naturally come to pass – it is the inevitable, eventual result of proletarian discontent as the truly contingent nature of the human order is revealed. The forces operating on the people are discovered and reason will naturally prevail. It is not that he does not recognise his responsibility to speak the truth: he does, but he sees his own importance as a champion of rational thought, not as a revolutionary leader. Although he says to the Little Monk, 'whatever truth gets through will be what we force through', he does not propose to take up arms, but rather stresses being 'prepared to reason', the willingness to 'get moving and learn how to think' (p. 68). Galileo may believe that 'the weapon of criticism' must be allied with 'the criticism of weapons', but it is not for him to make it happen. He leaves that to the proletariat and dialectical necessity.

The critical Marxist in Galileo, however, blames himself for his inertia. It is not enough to wait for the revolution, but a matter of individual responsibility to bring it about. Turning the world back the right way round is not an end in itself: he ought to pursue the implications of his scientific findings and join the people on the streets, to be prepared to sacrifice himself for their sake. He should 'work at the interface between a technical specialty and the larger, encompassing culture'.

Why does he not do so? His own answer is simply that he is a coward. But he is not quite a coward – he has been risking both his eyes and his person in copying out the *Discorsi*. Is there another reason for his resistance to heroism? Gouldner writes of Marx:

Marx is caught in a tunnel connecting science and philosophy, and he shuttles back and forth between them. He cannot relinquish science without

to prove that he is right, but to find out whether he is.²⁵ Hence the ultimate rejection of the acquisition of knowledge at the expense of popular involvement in the process of problem-solving. Hence, too, the play's utter rejection of religious or ideological fundamentalism and its claims to knowledge.

Brecht's Galileo, perhaps Brecht himself, shares with Freire a Marxist belief in human reason and an assumption that superior understanding will naturally lead to revolutionary action. Freire writes that 'liberation is a praxis: the action and reflection of men upon their world in order to transform it . . . A deepened consciousness of their situation leads people to apprehend that situation as an historical necessity susceptible of transformation.'²⁶ Galileo's optimistic linking of heavenly motions with earthly transformation implies a similar conviction.

According to Marx's article, cited earlier, theory and action must work together (though their connection is not inevitable): the 'weapon of criticism' is not a substitute for 'the criticism of weapons'; 'it is not enough that thought should tend towards reality, reality must also tend towards thought'.²⁷ As it does earlier in the article, a rhetorical flourish weighs each phrase against its inverted form. Here, though, the relation between the two sides of the weighed concepts is rather different from those images through which an inverted world was set on its feet. Rather than 'not . . . but' we have 'both . . . and', as each side of the equation is balanced by the other.

In Galileo's first long speech, he assumes a natural connection between scientific enquiry and a changing world. In his argument with the Little Monk, he again stresses the idea that thought and action go hand in hand: 'Unless they get moving and learn how to think, they will find even the finest irrigation systems won't help them' (p. 68). The relationship is no less imperative, though it has become less inevitable, in Galileo's last scene when he laments the dislocation of knowledge from socially committed action: 'The battle for a measurable heaven has been won, thanks to doubt; but thanks to credulity the Rome housewife's battle for milk will be lost time and time again. Science, Sarti, is involved in both these battles' (p. 108).

So how do thought and action become dislocated? And why, if science and action belong together, does Galileo not commit himself to action at the crucial moment?

'Not . . . but' and yet 'both . . . and': the closeness of paradox

Despite the fact that Galileo is clearly, if anachronistically, a Marxist, he is a conflicted one. While a dialectical theatre depends on the revelation of conflicting forces, in this case it seems to become entangled in paradox. The conflict is connected to the relationship between knowledge and action.

Scientific fundamentalism
← need to recognize that as its own ideology
CARY TURNER

capitulating to a moralistic view of socialism and he cannot renounce philosophy and the grounding it provides critique without surrendering to the present. For Marx's double-pronged project – to know *and* to change the world – philosophy was insufficient to know the world, science insufficient to criticize it. Marx cannot therefore embrace critique without science and science without critique.²⁹

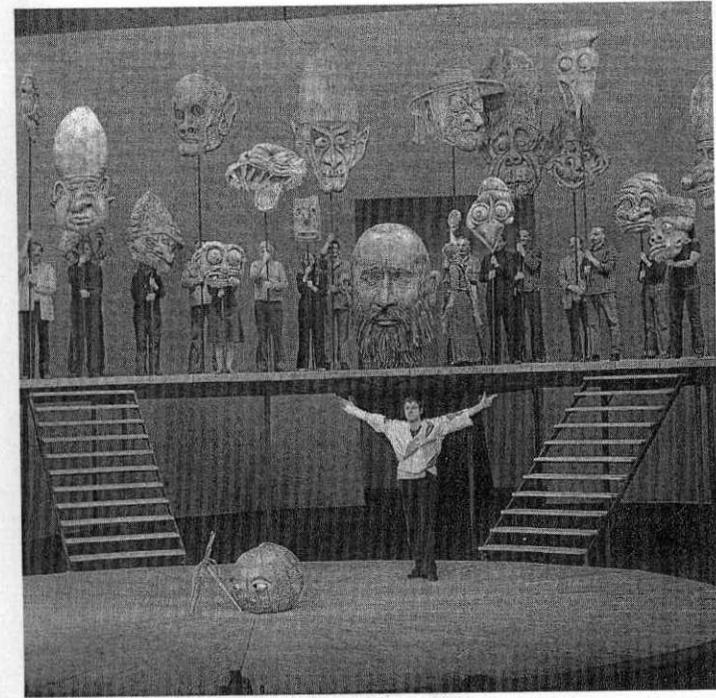
Do we hear the echo of the inversions that permeate the play, but with the relationship subtly shifted once again, so that the necessary relationship becomes paradoxical? The conviction that what is reliable is *not* philosophy (based on ideals) *but* science (based on rational observation) conflicts with the practical need for *both* philosophy *and* science, *both* committed action *and* dispassionate analysis.

It is here that we find the cause of the rhetorical shifts noted by Brecht when considering Galileo's self-condemnation. His language is no longer entirely that of the scientist who grounds his metaphors in observation and logic. This was already notable in the American version but is further accentuated in the Berlin version. The language even smacks of the preacher, ironically perhaps, but nevertheless uncharacteristically dealing in hellfire:

Welcome to the gutter, brother in science and cousin in betrayal! Do you eat fish? I have fish. What stinks is not my fish but me. I sell out, you are a buyer. O irresistible glimpse of the book, the sacred commodity! The mouth waters and the curses drown. The great whore of Babylon, the murderous beast, the scarlet woman, opens her thighs and everything is altered. Blessed be our horse-trading, whitewashing, death-fearing community! (p. 107)

This is a speech that has it both ways, at once bitterly ironic and drawing power from the language it derides. It preaches and analyses simultaneously, with some incongruity.

For Galileo to have resisted the church he needed not only to value his discoveries – as we see by the close of the play, such discoveries can survive a denial. Besides this, he must also have committed to their social significance and his own responsibility to engage with this. He must have forced the church to confront the symbolic significance of these discoveries, not simply their acceptance as fact. But how far can this symbolism be taken? The whole point of Galileo's science has been to unravel unjustifiable claims for metaphors that are not grounded in reality. In taking a heroic stand, Galileo would have to join the crowd, rallying around the ballad singer, whose irony comes so perilously close to allegory. He must go beyond scientific necessity in his revisioning of the world order. He cannot avoid an engagement with the religious symbolism that he has seemingly overturned. He must become 'the burned man'. He must become the Bible-busting, universe-commanding figure of the carnival procession.



14 The ballad-singer (1978 production), here surrounded by clerical, rather than carnival, masks. (Photograph: Vera Tenschert)

Despite this self-condemnatory speech, he cannot do this. Science gives him no grounds for doing so. From the first, Galileo is practical, realistic, connects his metaphors to reality: like Brecht, he believes that 'the truth is concrete'. He does not believe in heroes. He does not make it his business to quarrel with the Bible. He knows that while his discoveries unravel the supposedly material basis for the medieval world order, they may suggest but do not authorise a new one. He knows how little he knows. He knows that he is human, vulnerable and wants to go on living and researching. He hates himself for all this.

But he has no respect for Andrea's idealism, either. As we see in this late speech, he accuses Andrea of fetishising Galileo's discoveries, making of them a new scripture. So great is Andrea's reverence that he is prepared to forgive Galileo's betrayal if he can at last possess the precious book. Galileo knows the book is less important than the principle of the right to doubt. Yet the man whose *raison d'être* is to doubt, to test, to unravel is less well equipped than anyone else to take up an unequivocal, ideological stand or to die for a cause. For if Galileo is too committed a scientist to martyr himself

he is usually too aware of the delicate relationship between the reality and the metaphor, between the ballad singer's irony and his impulse towards allegory – a relationship that commands endless vigilance: one might say, he is too good a critic.

Where does this leave us? It does not solve the problem of the need for action, the sense of being (to quote Heaney quoting Milosz) '*stretched between contemplation/of a motionless point/and the command to participate actively in history*'. Yet, as the poem continues, '*Actively? What do you mean?*'³⁰ (italics in original).

Brecht seems to have shared something of Galileo's propensity to avoid unequivocal commitment. In *Me-Ti*, a character called Do insists that one must doubt even the evidence of one's own eyes; when asked what could set a limit to doubt, in that case, Do answers, 'The wish to act.'³¹ Galileo avoids the decisive moment of action, but he does act: he keeps questioning; he keeps sharing his discoveries. Is this enough? Brecht, also avoiding direct confrontation with the authorities, kept his verdict open-ended, despite himself, and continued to rewrite.

NOTES

- 1 John Willett, *The Theatre of Bertolt Brecht*, p. 196.
- 2 Brecht, *Collected Plays*, vol. v(i), p. 6.
- 3 Letter written to Walter Benjamin, November 17, 1938, cited in *ibid*, p. 163.
- 4 See Willett's translation in notes on this version in Brecht, *Collected Plays*, vol. v(i), p. 184, but for a full German version, see Brecht, 'Leben des Galilei, Fassung 1, 1938/9' in *Werke: Grosse Kommentierte Berliner und Frankfurter Ausgabe, Stücke 5*, eds. Werner Hecht, Jan Knopf, Werner Mittenzwei, Klaus-Detlef Müller (Aufbau: Berlin and Weimar; Suhrkamp: Frankfurt-am-Main).
- 5 See *Grosse Kommentierte*, pp. 72–3 (my translation).
- 6 See the editors' introduction to Brecht, *Collected Plays*, vol. v(i), p. x.
- 7 Seamus Heaney, 'Exposure' in *North* (Faber and Faber: London, 1996), p. 72.
- 8 See Guy Stern, 'The Plight of the Exile: A Hidden Theme in Brecht's *Galileo Galilei*', *Brecht Heute/Brecht Today, Brecht Yearbook*, 1 (International Brecht Society, Athenäum: Frankfurt-am-Main, 1971).
- 9 Mittenzwei cites Brecht Archive 2071/7–8 in Werner Mittenzwei, *Das Leben des Bertolt Brecht*, 1 (Suhrkamp: Frankfurt-am-Main), p. 652.
- 10 Quoted in editorial notes to Brecht, *Journals 1934–1955*, p. 463.
- 11 Brecht, *Journals 1934–1955*, 25 February 1939, pp. 22–3.
- 12 Brecht, 'Building up a part: Laughton's Galileo', in *Collected Plays*, vol. v(i), p. 133.
- 13 Vera Stegman, 'Eric Bentley Interviewed', *Brecht Yearbook* 28 (International Brecht Society: Pittsburgh, 2003), p. 50.
- 14 Ronald Hayman, *Brecht: A Biography*, p. 297.
- 15 Käthe Rüllicke, in Werner Hecht, *Materialien zu Brecht's 'Leben des Galilei'* (Suhrkamp: Frankfurt-am-Main, 1963), p. 96.