

Revolutions and Reconstructions in the Philosophy of Science: Mary Hesse (1924–2016)

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Published online: 2 June 2017

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1 Introductory Words

This obituary is primarily based on readings of Professor Mary Hesse's work and, moreover, many plentiful conversations with her during more than a decade.¹ My interest in her life and work started when I stumbled across a photo from a philosophy of science conference held in Great Britain in 1957, attended by 48 philosophers of science, of whom only one of them, Mary, was a woman. I made contact with her in Cambridge and went to see her, thereafter returning several times for interviews, talks and walks. Although different as people, we became friends with some common professional interests, so I was deeply sad to find out she passed away last October.

Philosopher of Science Mary Brenda Hesse died on the October 2, 2016 after suffering from dementia for some years. She had a long and successful career and was a highly regarded philosopher in many circles. Her collected work manifests both continuity and change. She had a great range of interests, an intellectual style of reasoning, a crystal clear way of exploring the themes she investigated and a life-long curiosity for theoretical challenges. One of her fundamental arguments was that philosophy of science had undergone significant and salutary changes from the middle of the twentieth century, which she characterised as revolutions and reconstructions. Much of her work aimed at carefully searching for the reasons behind these changes through close readings of the history of science. She also established that philosophy of science had to learn from science itself to yield a more accurate understanding of scientific developments.

¹ I have published some articles in English about Mary Hesse, see for instance Hallberg (2005, 2011, 2012).

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2 Family Background

Hesse was born in Reigate, Sussex, on October 15, 1924 and grew up as an only child in a strictly Anglican, lower middle class family. Her father was a silent and reserved man, who preferred talking to grown-ups to everyday conversations with his children and was therefore rather absent in her childhood. Mary felt closer to her mother as she was a caring woman, but also quite restrained. Her parents were older than those of her friends; her mother Brenda was 34 and her father Bert was 36 when Mary was born. Much later in life, on her 85th birthday, Mary's mother told her about a half-brother, Richard, who was born in 1942. It came as a big surprise to Mary and she lamented she had not known this earlier, not least because she had always felt lonely without any siblings. Richard made contact with Mary when their father died and they stayed in touch until Mary's death.

Mary received a strict upbringing and spent much of the time by herself, so both her childhood and adolescence were quiet and mostly uneventful. She learned how to read and write at an early age and spent a lot of time reading and studying books carefully, chosen by others. Her father in particular guided her to learn about religious matters, with good help from the nuns who were teaching at the small private school that Mary went to. The only science taught in school was botany, but Mary soon took an interest in popular writing about science more generally. From her early years and onward, she considered the world's great mysteries; how to make sense of them, how it all began, and the place of humans within it.

3 Education and Beginning of the Academic Career

A deeper interest in science, logic and mathematics awoke in Mary during the Second World War. In 1942 there was an appeal for young people to take a four months course in electronics, which Mary applied for. She did her so-called 'intermediate' exam and began working in a factory, building transmission receivers. Shortly after, due to her ambition and great efforts, she got the opportunity to enter a lab and develop her skills even more. One day a week she took courses at a polytechnic and in 1943 she applied for entree to science and technology at Imperial College of Science and Technology, University of London, from which she graduated in 1945. When the war ended, at the age of 21, she knew she wanted to continue this devotion to science and mathematics, and in particular wanted to do research in a physical chemistry lab.

Hesse took a Bachelor of Science in Special Mathematics in 1945 at Imperial College and received a Master of Science from the same college one year later. Shortly thereafter she continued her doctoral work at the University College London. At the same time she was doing her master thesis, she was appointed as a demonstrator, but was not given full responsibility for the students' courses, which meant she was slightly marginalised from the teaching staff. In 1948 Hesse defended her doctoral thesis on electron microscopy and received her PhD. She also received an MSc in the History and Philosophy of Science in 1950. Hence, she was both well educated and highly motivated already in her mid-twenties.

However, the end of the war and the post-war period brought difficulties for women looking for jobs in math, science or technology. Although Mary had built an academic career, she ran into problems when looking for academic posts. She was much younger than everybody else in these fields, and the women who had occupied significant positions

during the war now had to withdraw to the benefit of the returning men. It was a quite depressing time for Mary with many setbacks, but she succeeded to find a job at the girl's college Royal Holloway, which was actually a part of the University of London. The college was one of two pioneering colleges for women and was situated in the countryside. All the female teachers were residents and the few male teachers lived outside of the college. Mary taught mathematics there between 1947 and 1951, but was not content with teaching alone. She felt confined and left out from the really exciting scientific world which she wanted to be a part of. During the post-war years she improved her chances of establishing herself as a philosopher and historian of science by leaving the Royal Holloway twice a week to take evening classes at University College London and received her PhD there in 1948.

Already by this time, as becomes obvious from her second Master of Science in History and Philosophy of Science, Mary Hesse wanted to move beyond math and logic and find other challenges and new colleagues with even wider interests. Very few of her peers and supervisors shared her interest in combining history and philosophy. They were either historians or philosophers who did not interact particularly well with one another. Hesse had difficulties obtaining a motivated supervisor and the only real teacher that she remembered when doing her MSc in mathematics was the physicist and philosopher Herbert Dingle. He initially worked at Imperial College and from 1946 was professor of History and Philosophy of Science at University College London. Dingle supervised Mary's MSc thesis and was a source of inspiration for her because he was a physicist, but also a philosopher and historian. Hesse appreciated Dingle's opposition to the philosophers of the day, who were introducing positivism and the Vienna Circle into the philosophy of science in Britain, which she opposed. Except in discussions with Dingle, Hesse was more of an autodidact, who studied books and papers on science out of personal interest in the matter. She kept her strong objections to positivism throughout her academic career, clearly spelled out in her first published book, *Science and the Human Imagination* (1954), and often returned to them in later works.

4 Leeds

In the years after her doctoral exam, Hesse applied for several academic posts but had to wait until 1951 to receive a lectureship in mathematics at Leeds. She worked there until 1955, when she returned to University College London as Lecturer in the History and Philosophy of Science. She started out as a logician and mathematician but soon included historical and philosophical problems of science (physics) in her academic agenda. At first, she was inspired above all by Dingle, but her experiences at Leeds also gave rise to a more thorough engagement with philosophical and historical issues. Hesse was in close contact with academics with philosophical interests all around the UK, both up North (Leicester and Manchester) but also at Oxbridge and London. Many of these philosophers had a background in science and a strong engagement in the popular philosophical puzzles of the day, such as logical empiricism, verificationism, the meaning of observational and theoretical concepts. etc.,—in short, in debatable topics in the contemporary analytic philosophy of science. Hesse strongly doubted not only the correctness of positivist epistemology for understanding science, but also that the one recognised mode of knowledge was the 'scientific' one. In this respect she increasingly oriented herself towards those departments

where history and philosophy of science (HPS) were jointly practised and where she could meet, listen to and discuss with prominent thinkers in the field.

The combination of lecturing at Leeds, making contacts with philosophers at other locations of learning and keeping in touch with colleagues and eventually returning to UCL, led to a highly productive period in Hesse's academic life. She was part of an influential post-war network of philosophers of science in Britain with broad international contacts and she deliberately built a solid career. During the 1950s she published several papers in prestigious journals, apart from the earlier mentioned book *Science and the Human Imagination* (1954), where she developed topics further explored in her later books. One of these was on 'Action at a Distance'; another one was on 'Models in Science'; a third one on 'Analogies', a fourth on 'Metaphors'—all of these topics recurred in her later publications.

Around this time Hesse also started to join conferences abroad and to supervise students in their master's theses. She also took on an assignment as secretary of the Philosophy Society group in London. Hesse also got the opportunity to work in Touring's lab in Manchester where she had her first contact with computers. She had ongoing discussions with colleagues and reinforced her resolute belief in proceeding to challenge and modify the received view (positivism) in philosophy of science.

Although Leeds turned out to be successful for Mary, she always stayed in touch with London, and so she decided to move south again. University College London had always been attractive to her. When UCL offered her a position as Lecturer in History and Philosophy of Science she left Leeds in 1955 to work there until 1959. Mary later recalled that there were a fair few conflicts at UCL, involving scientists who preferred the history of science to philosophy. She experienced a split between these two subjects that she always had criticised.

5 The Cambridge Years

Another productive period took shape for Mary in 1960. Her attention was drawn to a lecturing position in the History and Philosophy of Science at Cambridge and she applied for it, without much hope to be shortlisted. Nevertheless, she and another female researcher, Marjorie Green, were the only two remaining candidates when the committee gathered for interviews. Mary described this event as 'shocking', as they were both women and—as rumours had suggested—neither one of them was really wanted. Most likely, there was a divide within the committee that finally led to the appointment of Mary Hesse, the only one of the two candidates who had worked in a lab. The post was an expansion of the philosophy part at the HPS unit, which was not yet a department. The two colleagues already working there were the philosopher of science Gerd Buchdahl and the younger historian of science Michael Hoskin.

Mary came to lecture in both philosophy and history of science in order to link them, mostly teaching undergraduate science students. Later on she advanced to first Reader (1968) and then Professor (1975) in History and Philosophy of Science. The higher academic position required, as always, additional work, assignments and responsibility.

Cambridge was appealing to Mary because of its highly ranked position among UK universities, because of the many brilliant students coming there, and because of the many respected and admired scholars associated with it. Hence, she was both proud and happy when she succeeded in receiving a post at HPS. As an academic setting Cambridge was more demanding than the other colleges she had attended over the years, but this did not come as a surprise to her.

6 Forces and Fields

Just before arriving at Cambridge, Hesse was close to finishing a manuscript for a book in the history of physics, which she was compiling from earlier published articles. The book, which was her second one, was published in London in 1961. Its title is *Forces and Fields: The Concept of Action at a Distance in the History of Physics* and contains a certain philosophical interpretation of selected periods in physics where new concepts and ideas were introduced. Hesse advocated the belief that when studying the history of science there is always some underlying philosophical view of the nature of science. In the preface she states, “there are no bare and uninterpreted facts; all facts, whether experimental or historical, are interpreted in the light of some theory” (Hesse 1961, v). In quite a technical first chapter she then discusses and dismisses both the realist and the positivist theories of science in favour of a modified realist account, which according to Hesse is more in harmony with what scientists actually do. Her philosophical view was that fundamental models and the concepts that they imply play a decisive role in science. A model, however, will be fundamental only in relation to a particular historical situation, suggesting that the question ‘how do bodies act on one another across space?’ has a variety of answers through the history of physics due to different analogies, ideas, methods and concepts, in short fundamental models.

Hesse continued to work with the same basic ideas outlined in *Forces and Fields* in the following years at Cambridge. Several of her papers were published in well-reputed journals in the early 1960s and in 1963 her third book, *Models and Analogies in Science*, was published. Her list of publications was already impressive; a witness to an exceptionally hard-working scholar. Recalling these initial years at Cambridge in various conversations often made her a little surprised about her own energy and capacity. Obviously she was busy doing many different things and came across various challenges, not all of them purely intellectual.

7 University Politics

When Mary Hesse arrived at Cambridge as the newest, youngest and only female philosopher of science, Gerd Buchdahl was head of HPS. At that time HPS was supervised by the Department of Philosophy, because it was not a department per se. None of the lecturers at HPS had a college affiliation, which was rather awkward in Cambridge. To look after their interests and support each other, and influence university politics, Mary and her colleagues established the so-called ‘1960 group’. Mary was elected chair of this group between 1963 and 1967. One of the main goals was that all the lecturers should gain a college affiliation. Mary herself became a member of Wolfson College, which was founded by the university as ‘University College’ in 1965. Wolfson College admitted both men and women and was the first to do so.

Apart from her efforts to improve conditions at Cambridge, and of course the teaching and scientific work, two more tasks occupied Hesse’s daily living. Mary’s father had died in 1957 and Mary and her mother lived together first in Leeds and then in Cambridge. Her mother was getting old and Mary took care of her for many years until she had to move into a home because of her Alzheimer’s disease. As an only child with no family of her own, Mary felt obliged to look after her mother, although this made it difficult for her to meet the academic responsibilities and often made her feel unsettled. Also, ever since she

was young Mary had been an active member of the Anglican Church with a strong sense of duty towards the Christian community. Her life became quite confused, with many and sometimes opposing claims and problems to solve, and with very little leisure time. Still, her academic achievements continued and flourished.

However, her Cambridge years also turned out to be a much lonelier experience than she had expected. In part, it had to do with the lack of college affiliation and her home situation, but other factors played a role as well. Mary was the only woman among lecturers at the HPS and had difficulty socialising with her male colleagues. Nobody actually opposed her, but various circumstances disallowed relaxed conversations outside of the seminar rooms and work offices. In the University College at Cambridge there still was a 'women only' room, a men's room in which most of the men went and a common room where very few people except for students were sitting. Mary frequented the women's room where her colleagues were absent, which prevented her from informal conversations with her peers.

Similar complications arose outside of the college world. Hesse's male colleagues often had families and invited each other to social events, to which she—unmarried as she was—would seldom fit in. She became isolated from 'the inner circle of friends' and also missed having female colleagues to spend time with. It is possible that the combination of a solid sense of duty, an ambitious mind and the academic loneliness she experienced at Cambridge meant that she devoted all the time she could find to improving her professional skills.

Being active in university politics was an important step to take to reach out to her colleagues and make a difference at Cambridge. However, in the 1960s other political movements grew stronger than ever, something Mary was well aware of but not particularly devoted to. In general terms, she was not a politically interested person who liked to join meetings or protest marches, but she had a curious and open mind and followed what went on around her. She never called herself a Marxist or a socialist of any kind, but she spent time with certain Marxists at Cambridge and was above all impressed by a number of Critical Theory experts. She got interested in Jürgen Habermas' writings and was mainly fond of what she understood as his critique of scientism. Hesse returned to Habermas in several publications and talks and she also invited him to Cambridge later on in her career.

Parallel to her interests and skills in science and mathematics, Hesse educated herself in so-called Continental philosophy, Hermeneutics, and the social and human sciences. Her upbringing and religious background possibly contributed to a more conservative worldview, but the 1960s also certainly had an impact on her. She looked for a philosophy of humans and saw the turn to analytic philosophy as a product of an era in which confidence in natural science was at its height, which disturbed her. The war, followed by the Cold War, the trust in weapons and the role of scientists in medical experiments were all alarming phenomena to Mary.

8 Meeting Thomas Kuhn and the Concept of Revolution

Hesse dedicated much of her work to bring closer the history and philosophy of science and she was lucky to find a similar emerging fascination among some of her peers. Even in 1960, the year she came to Cambridge, she went to a conference in London, entitled 'Scientific Change'. The American historian Thomas Kuhn was invited to the conference and it was the first occasion that he spoke in Britain about scientific revolutions and

scientific paradigms, two years before his book *The Structure of Scientific Revolutions* was published. According to Mary Hesse (at a talk presented by her on June 21, 2002, at HPS Cambridge to celebrate her Honorary Degree), Kuhn's paper was received with some shock by the audience, which was made up of philosophers and historians of science and scientists. Hesse, together with some colleagues from HPS at Cambridge, were much amazed at those reactions, but had the sense that this conference would come to cause a real paradigm shift in the History and Philosophy of Science itself, away from positivism, logicalism and physicalism into a much more dynamic interpretation of science.

Kuhn's ideas were in line with those of the French historians Duhem, Bachelard and Koyré, whose works Mary had studied. From there on, the HPS in Cambridge would commit to study H and P as a unity, with Mary Hesse as one of its leading spokespersons. Kuhn's choice of a concept such as 'revolution' was in line with the rhetoric in the 1960s. While Kuhn was the one who introduced the concept of revolution into studies of science, Mary to her surprise also found it useful in her own understanding of scientific work and much later she came to use it as a description of change in the philosophy of science.

During the 1960s, Hesse published numerous articles and chapters in anthologies. *Forces and Fields*, her second published book, got reprinted in Britain and her third book, *Models and Analogies* was printed in the US. She received invitations from American universities and went to Yale, Minnesota and Chicago as a visiting scholar in HPS. Some years later she was also invited as visiting professor to the University of Notre Dame. All these requests and visits strengthened Mary's self-esteem and each academic experience abroad improved her situation at Cambridge. She made contact with some of the most respected researchers in the HPS at that time and invited them in their turn to spend some time at the HPS at Cambridge, which also grew. Eventually, the department recruited prominent scholars within the field to join it, more students applied for courses and the department's academic attainment increased.

9 Scientific Inference and Advances Towards the Social Sciences

At the end of the 1960s and the beginning of the 1970s, Mary Hesse worked on what was arguably her most significant book: *The Structure of Scientific Inference*, which was published in 1974. Here we find some previously published material from the late 1960s put together by the mature researcher that Mary had become. As firm as ever in her rejection of most of the presuppositions of positivist philosophy of science, the logical and analytic style included, she also developed an inductive model of science, which owes much to the network model, outlined by Duhem and adopted by Quine. Duhem had argued that no scientific hypotheses could be tested in isolation. Testing depends on background assumptions about the testing process itself and background assumptions are involved in a network. Mary Hesse had the same basic belief about theories and statements. In *The Structure* she states: "which statements are *taken* to be true depends on coherence with a whole theoretical network" (p. 4). She did not argue that any theory could be imposed upon any facts. Instead, a "theoretical entity must have some postulated relation with an observable entity in order to enter scientific theory at all" (p. 29). However, the network model defines the goals of science primarily in terms of expectations of successful learning and prediction.

Moreover, Hesse argued, the application of concepts takes place within a specific network, which in turn differs between different epochs of scientific change. Hence, how

concepts are applied depends on the network in which they are defined and understood, meaning that there are no fixed acts of concept application, or, more specifically, that no concept can be applied in isolation. This is called ‘finitism’, and entails that past applications of a concept cannot rationally determine correct future applications. Finitism therefore has far-reaching consequences for the idea of fixed meaning; the meaning of a concept changes with the network. Here one recognises Hesse’s earlier writings on fundamental models in *Forces and Fields*. The Hesse-net and finitism have become most important in those parts of philosophy of science that are congruent with the sociology of scientific knowledge, which was developed by the so-called Edinburgh-school. One may notice influence from Wittgenstein’s ‘family resemblance’, i.e. that concepts and language resemble each other, but in Hesse’s view only in *some* respects. She believed that discoveries are made in interaction with the world using a particular language, so “natural scientific inference has rational grounds, but these are essentially finite and local in application” (p. 302).

The Structure of Scientific Inference gave Mary a special reputation as a philosopher with an open mind to claims from the social sciences. Many students at the HPS-department wanted to learn more about the sociology of science and Mary was happy to lecture on these relatively new perspectives. She met the social anthropologist Mary Douglas, read all her books and went on studying Durkheim, Levi-Strauss and Mauss. Mary also supervised one of the founders of the Edinburgh-school and the strong programme, David Bloor. She was in touch with Thomas Kuhn during all this time, with whom she discussed to both of them central topics at conferences, in papers and private letters.

10 Science and Religion

Since childhood Mary had been a serious Christian and so she remained through the years. Now and then her commitment to theology was shown in her publications, but for a person who had been an active Anglican most of her life and who very much dealt with questions about truth, the universe, meaning and religion such publications still were rather scarce. All in all she published three papers in the 1970s on theology, compared to nearly thirty on logic and scientific knowledge. Between 1977 and 1980 she was part of the *Stanton Lectures* on the subject of the philosophy of religion in the Faculty of Divinity.

In addition, she was invited and went to conferences on science and religion, but later said that the atmosphere and the foundationalism she experienced often disturbed her. A few of the papers delivered at conferences were published, while others were not. One of the papers, presented at a conference organised by the *Society for the Study of Theology* in Edinburgh in 1975, was published five years later in a different context in her 1980-book, *Revolutions and Reconstructions in Philosophy of Science* (see below). From all the interviews conducted with Mary, very little was in fact said about religion and the question of science and religion.

She was concerned with the ways science is similar and dissimilar to other systems of thought, religion included, and thought that science had no privileged position. It could be argued that her religious faith facilitated her view of science as never ultimate—science is created, constructed by people and would not give eternal answers to questions raised by mankind that only the mighty God could know. In that sense, the modest realist/relativist view of science that she advocated, as well as the thesis of finitism, was completely in accordance with her religious beliefs.

11 Revolutions and Reconstructions

After her stay as visiting professor at the University of Notre Dame in 1972, Hesse did not go on any more sabbaticals during the rest of the 70s but stayed in Cambridge. She had been appointed Reader in 1968, which meant more advanced supervision tasks and responsibilities at the HPS, and she now had a college affiliation. By this time her mother was also ill and was in need of more attention. In 1975 she was appointed Professor in History and Philosophy of Science. Cambridge was not at a distance any more, but finally turning into the place where she worked and lived.

In 1980 Mary published her fifth book, *Revolutions and Reconstructions in the Philosophy of Science*. This volume is in agreement with all her previous analyses of the intellectual tradition she was a critical part of, but it also widens the perspectives and invites the reader to reflections on methodology and value judgements in the social sciences. In an until then unpublished paper, 'The Strong Theses of Sociology of Science', Hesse introduces the sociological discussion of epistemology, initiated by Marx and Durkheim and followed by more recent social scientists who were also inspired by Quine, Kuhn, Feyerabend and Wittgenstein. These approaches had been regarded as the threat of relativism from realist philosophers and Hesse argues that: "If we take the thesis of underdetermination of theories seriously, relativism is a consequence that is inescapable in some form." (p. xiv) Nevertheless, Hesse's purpose throughout the following papers is to steer a course between metaphysical realism and relativism and she does so by addressing a, on her part, recognisable critique of the empiricist presuppositions with the integration of the philosophy of the natural sciences into a wider epistemological framework of other philosophies as well—of the social science, hermeneutics and the sociology of knowledge. The project appears both bold and difficult but summarises both Hesse's deep and broad knowledge of the subjects and her commitment to a more adequate philosophy than the one she came across in her youth.

As mentioned above, during the latter half of the 1970s, Hesse had become more and more familiar with the sociology of science and general sociology as well, themes, which in this new book, are arranged to further strengthen the modified realist position she adopted in understanding scientific knowledge. When discussing the social sciences she strongly objects to the view they are value-free, but as we know from her work on the philosophy of science, the same is valid for the natural sciences. However, from the previous *misunderstanding* of the purpose of natural science "it followed that the search for social theory should become a search for objective, value-neutral, descriptive laws and explanations, in terms of which the primary subject of the social sciences, man, has to be seen as a purely natural phenomenon, identified solely in terms of observable products [...]." (p. 245).

This passage is taken from the final section, where Hesse discusses the issue of concepts of truth in science and religion. Her view is that all previous theories of man and society have been heavily dependent on value-laden interpretations, and she opposes social scientists that are dehumanising the social world through adopting a false understanding of both natural and social science. The consequences for theology are that its concept of truth differs from the one in empiricism of natural science. Ideologies and moral systems are modes of knowledge much different from that of science as they are created by evaluations. Hesse concludes that there is no need for the relativism she adopts and defends concerning scientific knowledge in religious or other forms of ideological thought, says that instead "there is every reason to resist the relativist conclusion" in these cases. (p. xxiv).

Just before *Revolutions and Reconstructions* was published, Mary was invited to an interdisciplinary conference in Illinois on 'Postmodernism' that gathered participants from

a variety of disciplines: literature, sociology, anthropology, history and so on. The many different papers presented gave her the insight that she ‘had been a postmodernist all her life’. In Mary’s talk, given many years later at her Honorary Doctoral Celebration in Cambridge 2002, she recalled that this was the first time ever that she overheard an unanimous rejection of the Enlightenment aspirations towards a formal methodology, a universal language, of rationality and of the Kantian *Aprioris* of pure, practical and theological reason. The conference and the subsequent reflections inspired her to get a further grip on the ‘threat’ of relativism and also go beyond postmodernism in its current form in favour of a modest realist philosophy of science, which *Revolutions and Reconstructions* ends with.

Those sociologists advancing the strong programme found an ally in Hesse’s philosophy. Her work had significant intellectual impact on research groups doing empirical studies of science that increased in the 1980s and Hesse’s network theory, already presented in *The Structure of Scientific Inference* (1974) and often called the ‘Hesse-net’, played a significant role. There were many other philosophical sources of inspiration to this ‘empirical turn’, too: Duhem, Quine, Kuhn and Wittgenstein, of course, were all dealt with in Hesse’s writings, and sociologists and anthropologists as well, which she also turned to and learned from. On the other hand however, Hesse’s engagement with in the philosophy of the human sciences, i.e. Dilthey, Gadamer and Habermas to mention a few, to the best of my knowledge never took root among sociologists of science.

12 *Revolutions and Reconstructions and Beyond*

During the 1980s Mary displayed her hard and disciplined work in numerous publications, quite a few of which were translated into Italian and Spanish. She was an admired supervisor and much sought after as a commentator on papers. She also edited the *British Journal for the Philosophy of Science* and became a member of several editorial boards. In 1984 she received an Honorary Degree DSc from the University of Hull and in 1987 also received an Honorary Degree at the University of Guelph, Ontario, Canada. The recommendation letter to the Senate presents Mary Hesse as a globally recognised scholar in the history and philosophy of science. From an outsider’s point of view, one could not have had a more successful academic life than her.

Still, the loneliness and marginalisation she had experienced ever since her first arrival at Cambridge remained and a couple of times in our many conversations she rather spontaneously said that she was not particularly happy there. On the contrary, she was disillusioned about the difficult teaching situation and did not feel comfortable with some of her colleagues. So, when offered new invitations as visiting professor from various universities, she accepted and went abroad as much as possible, until an early retirement in 1985 at the age of 61. By then, her engagement in philosophy of science had declined and she felt she could not accomplish more than she already had. Her fellows had not received, what she viewed as her most significant work, *The Structure of Scientific Inference*, well enough; all her books had different publishers and she sometimes felt underestimated in spite of her glowing academic credentials. *Revolutions and Reconstructions* was her last book and although she regularly continued to publish and get republished, she would find no motivation to assemble her material once again and take up new threads.

Instead, she started a completely new project, which was at first just a hobby but after retirement eventually grew into a second calling. This project, in Landscape History, gave

her much satisfaction. She reverted to student status, met with new, engaged people, went for long walks in the countryside, studied completely different texts to those before and, of course, published in this new domain. At least eight articles, all of them lengthy, got published in the 1990s and in 2007 she published a reconstruction of the medieval ‘East Fields’ of Cambridge town in *Proceedings of the Cambridge Antiquarian Society* (96).

In 2002 Mary Hesse received a well-merited Honorary Degree at HPS, Cambridge, about which she was thrilled. It concluded her significant contributions to history and philosophy of science. This was the same year our conversations began and Mary willingly shared her memories from a most exciting academic life.

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