DIOGENES

Diogenes 225: 127–137
ISSN 0392-1921

Bio-Technosciences in Philosophy: Challenges and Perspectives for Gender Studies in Philosophy

Susanne Lettow

Since the 1960s, bio-technosciences have been central subjects for philosophical reflection. With the development of molecular biology, genetics, computer science, artificial intelligence research, and genetic and reproductive technologies, various aspects of these technosciences began to enter philosophical debates. These debates are ongoing today, notably in the field of bioethics, a domain which emerged in the 1960s in the English-speaking world and whose model now shapes other fields of ethics distinguished by their hyphenated prefixes, such as neuro-, nano-, or roboethics. However, bioethics is not the only philosophical subfield concerned with bio-technoscienes. Philosophy of mind, for example, established a close relationship with cybernetics from the very beginning of the latter, extended this to artificial intelligence research in the 1960s, though later, by the end of the 1980s, this association was replaced by an equally close relationship with the neurosciences. Furthermore, structuralist and post-structuralist modes of thought that developed within the field of philosophy in France from the 1950s and 1960s absorbed elements of the technosciences, cybernetics, and genetics and integrated them into different philosophical projects. In addition, since the 1990s an intensified recourse to theorems of philosophical anthropology has emerged along with a reinforcement of a (post-)humanist vocabulary in the confrontation with bio-technosciences. Thus since the last decades of the twentieth century, bio-technosciences have become increasingly meaningful, not only in daily life and in respect of their political and economic applications, but they are also strongly anchored in the cultural and especially the philosophical imagination of our time. One can confidently assert that they have contributed to a transformation of the field of philosophy, presenting thereby new conceptual challenges, especially for gender studies in philosophy. I therefore argue that the new hegemonic configurations that have emerged in the field of philosophy as a result make it necessary to rethink and reconfigure previous strategies of analysis and of critique.

SAGE: Los Angeles, London, New Delhi and Singapore, http://dio.sagepub.com
DOI: 10.1177/0392192110374246

In the 1970s and 1980s, when feminist philosophers began not only to expose sexist statements by philosophers, but also to inquire systematically into the male-oriented perspective of many philosophical concepts and projects, they had before them a relatively stable field of philosophy, that is, a defined order of sub-disciplines and a more or less hegemonic disciplinary canon. They set about questioning how, in all fields of philosophy and in their canonical works, gender relations are articulated and where they are concealed. Feminist philosophers extensively examined tradition and consistently showed that supposedly neutral and general concepts were in effect thoroughly gendered. In addition, they constructed alliances with certain philosophical positions and schools, or traditional positions were rearticulated by them in feminist terms.[1]

Since then, however, the philosophical order that had been handed down from the nineteenth century has been considerably shaken. The emergence of new sub-disciplines such as neuro-philosophy, media and computer philosophy and bioethics can be seen as an indication of how the whole field of philosophy has been transformed. The academic discipline of philosophy is thus also contributing to a shifting of the boundaries between the social sciences and the humanities on the one hand, and the natural sciences and technosciences on the other. For feminist philosophers, what is at stake in this transformation is the challenge of critically reconstructing both the implicit as well as the explicit constructions of gender located within philosophical conceptions and of systematically addressing the conceptual obstacles that inhibit the discussion of gender relations. Furthermore, it is important to intervene in the current transformative processes that concern not only philosophy but the whole order of knowledge.

In what follows, I analyse three theoretical configurations that present central challenges for current philosophical gender studies because they each, in a specific way, fail to address the implications of bio-technosciences in terms of gender theory and politics. The positions and problems that I discuss are, first, the dominant position of scientistic naturalism in the philosophy of science; second, the paradigm of bioethics; and, third, the revival of anthropological thinking and philosophemes in philosophical debates on bio-technosciences. In all three cases, I start with an outline of the hitherto hegemonic thought-constellations. I then indicate strategies of feminist critique applicable to each and I discuss in which respects analysis and debate should be continued. Subsequently, I discuss the challenges and objectives of feminist philosophy that follow from my analysis.

Mind, Brain, and the Neurosciences – The Impact of Naturalism

'Now philosophical issues involving neuroscience are mainstream philosophy', stated philosopher Ned Block in a 2003 article in the journal *Science* (Vol 310, 2003: 1328). Indeed, since the mid-1980s, the neurosciences have become the central scientific reference for the analytical philosophy of mind. This branch of analytic philosophy, which deals with the question of how mind and consciousness can be explained without recourse to metaphysical assumptions, had in the 1960s and 1970s been characterised by a strong alliance with artificial intelligence research. For a long time,

a functionalist perspective prevailed that started from the assumption that mental processes consist of the processing of symbols. Because these processes were considered to function independently of the medium in which they take place, from this perspective the materiality of the body played no role. ''We could be made of Swiss cheese, and it wouldn't matter,'' Hilary Putnam claimed (1975: 291). However, by the end of the 1980s, with artificial intelligence research entering a period of crisis and the rising success of the neurosciences, the latter took over central interest in the philosophy of mind. This change in orientation, and in general, the attempt to credit a philosophical position by associating it with scientific knowledge are both grounded in the program of philosophical naturalism. However, this programme is based on fundamental epistemological and philosophical assumptions that avoid addressing gender and gender relations. The association with scientistic naturalism and forms of naturalisation related to it thus presents a central challenge for gender studies in philosophy.

Despite all internal differences, naturalism is constituted as an epistemological and philosophical programme because of the claim that natural science's methodology provides the only reliable form of knowledge. 'The concept of natural science', in this perspective seems to be 'more fundamental than that of nature itself', states Geert Keil (2005: 67). Essentially, naturalism followed on from the physicalism of the Vienna Circle that ascribed to physics the privileged access to reality. According to this point of view, the knowledge derived from physics together with its methodologies presents a model for all knowledge. Yet, since physics lost its central status in the knowledge order in the second half of the twentieth century and is no longer conceived of as the leading science, conceptual orientations on the physics model have become fragile. As a result, 'physicalism' has been reformulated as 'naturalism' in several ways. This means that, in principle, any science or research paradigm can take the place of physics. Geert Keil and Herbert Schnädelbach have therefore cogently phrased the naturalist programme as: 'Wherever science leads, I will follow' (2000: 22).

Thus theoretically, in naturalist philosophical discourse, all doors are open for gender ideologies to circulate within the sciences, because no critical analysis of concepts or knowledge produced by the natural sciences is possible. Naturalist philosophers have no possibility of critically addressing the processes of formation and circulation of scientific knowledge. In naturalist argumentations of the philosophy of mind, therefore, gender ideologemes derived particularly from socio-biology consistently circulate. For example, Daniel Dennett's theory of consciousness refers to the socio-biology of Richard Dawkins and his construct of the selfish gene. From Dawkins, Dennett adapts the construction of egoism and its related socio-biological gender narrative. According to this, both males and females strive for the greatest possible 'reproductive success', although they implement different strategies: males attempt to fertilise as many females as possible, while females, which 'invest' much more energy in the production of an egg than the male does in sperm, search for a qualitatively high-ranking partner and are thus reserved and discriminating. In Dennett, this narrative is implicitly present in his naturalisation of egoism and competition, which he views as the 'heart of all biological processes' (1991: 231). In addition, Thomas Metzinger's theory of subjectivity includes the theorem of repro-

ductive success. Metzinger searches for possible 'advantages' in the 'development of consciousness, subjectivity, and qualitative content in light of the merciless selective pressure of the biological environment on this planet' (1993: 59). His answer is that mental representations allow for processing 'the greatest possible amount of survival-relevant information . . . in the quickest and most efficient way possible' (ibid: 65). This efficiency asserts itself, as he explains further, for the reproductive success of organisms. This also holds true for human subjectivity, which is characterised by mental structures on a higher level and complex 'self-modelling'. This privileging of socio-biology is especially apparent in Bernd Goebel, who claims that this field of study 'deepens our knowledge of humans by teaching us that we are genetically predisposed to privilege relatives and members of our own race and especially mothers to love their children' (2005: 33).

These are just some examples, though they are not mere aberrations but rather symptoms of a fundamental epistemological and, above all, philosophical problematic. The central shortcoming that naturalism shares with the older positivism lies in the fact that this theoretical mechanism does not allow for reflection either on how and where a particular theoretical practice is situated in the field of philosophy, or on the specific forms in which scientific knowledge is produced. As Keil and Schnädelbach state, naturalism is characterised by an 'irreflexivity', a 'blindness to its own status' (2001: 72), as well as to that of the sciences to which it relates. This means that a naturalist argumentation cannot address all that Foucault called the 'historical *a priori*', that is, the ensemble of institutions, discourses and power relations that play constitutive roles in the production of scientific and philosophical knowledge. Therefore, the way in which knowledge is intertwined with power, especially the manner by which the sciences, philosophy and gender relations are interconnected with each other, cannot be addressed. However, feminist epistemology and science studies consistently have shown that only by reflecting upon the situatedness and contextuality of knowledge does it become possible to identify the political-ethical dimensions of scientific knowledge. In particular, the concept of 'situated knowledges', as formulated by Donna Haraway, allows for recognising power relations that permeate knowledge on all levels, be they conceptual and research-related, or institutional and medial. However, she does not argue for a negation of objectivity in favour of cultural relativism; rather, she seeks a re-articulation of the concept of objectivity. For Haraway, such a re-articulation starts with recognising the partiality of any perspective. In contrast to a false universalism, the acknowledgement of a partiality, which must prove itself in the confrontation with other perspectives of partiality, is 'the condition of being heard to make rational knowledge claims' (1988: 589). Objectivity thus remains the central point of reference in the production of scientific knowledge. However, the concept of what is 'object' undergoes modification when various socially situated knowledge subjectivities are introduced that pursue diverging and, in part, competing, knowledge projects. Starting from the assumption that these foci of knowledge subjectivity are diversely positioned within social relations, but also within the multidisciplinary knowledge order, the specific processes by which knowledge objects are constituted are brought to the centre of attention – processes that are structured by social power relations.

Gender studies and in particular the social studies of science have carried out

diverse investigations into the way scientific knowledge in practically all disciplines becomes gendered. Additionally, epistemological concepts have long been formulated that can overcome the structural problems of scientific naturalism. However, in the current debates involving philosophy and the neurosciences, these concepts hardly ever come into play. Consequently, a central task of feminist philosophy is to intervene emphatically in these hegemonic debates as well as to re-conceptualise and further develop debates around feminist epistemologies that have from the beginning been prominent in feminist philosophy. Furthermore, naturalism presents a particular theoretical challenge because this is the currently dominant paradigm in the field of philosophy, not only in the way science is articulated but also in representations of nature and naturality. However, a philosophy informed by gender studies should dispute naturalism's claim that it can adequately address dimensions of the natural in human subjectivity and society. Following this approach, it is therefore not enough simply to criticise the obvious naturalisation carried by naturalist argumentations, because any critique of naturalisation still mirrors that which is criticised. As 'material feminisms' (see Alaimo and Hekman, 2008) have currently brought to our attention, what is at stake is the need to re-examine feminist-deconstructivist criticism in its relation to nature and knowledge about nature. Stacey Alaimo has noted that feminist theory building in the last decades has been characterised by an 'accelerated "flight from nature"' (2008: 237). The proposed perspective seeks to develop a non-essentialising approach to materiality and naturality which communicates with nature knowledge, especially that of biology, without making this kind of knowledge into an absolute.

Ethics and the Politics of the Life Sciences – The Paradigm of Applied Ethics

Bioethics is another strategically significant discursive nexus for philosophical gender studies because bioethical articulations of problems bring a specific shape to significant gender-infused social and political questions which allows for wider reflection in the debates of political institutions and ethical committees. In the light of this, feminist theory places central importance on how philosophers articulate questions on the social and political-ethical dimensions of bio-technosciences and what kind of concepts and conceptual strategies they use. In bioethics as a branch of applied ethics, however, a paradigm has been established which, in many respects, has proved too narrow to comprehensively address the issue of gender relations.

Many critics have already shown that bioethics – because it takes a position on existing research tendencies and technologies only 'after the fact' – is characterised by a peculiar lack of competence. The main problem is that it cannot accommodate a confrontation with the specific internal logics associated with the development of science and technology along with the social relations by which they gain their specific contours**.** This is a consequence of bioethics' derivation from analytical philosophy. The paradigm of 'applied ethics', which covers not only bioethics but also business ethics and media ethics, was created as a complement to the meta-ethics programme.[2] This meant that questions of what constitutes the 'good life', right and wrong, good and bad were fundamentally disassociated from any social context. The

https://doi.org/10.1177/0392192110374246 Published online by Cambridge University Press

renewed interest in material ethical problems that emerged in analytical philosophy during the 1960s assumed, in this context, the form of 'applied ethics.' Yet, adopting the earlier social decontextualisation of ethics resulted in applied ethics dealing with problems that appeared as isolated issues. As a result, bioethics contains within its structure an implicit contradiction: it plays a direct role in the social and political regulation of science and technology insofar as it determines what is permissible and what is prohibited, while at the same time, lying beyond its scope is the relation between ethics, politics and society, and the specific theoretical practices of bioethical discourse. Therefore, although bioethics generally functions as a source of political counsel that produces problem-solving recommendations and decisional options, it inherently excludes the political dimension of science and technology.

One example is the debate on stem-cell research and pre-implantation diagnostics with its narrow focus on the embryo as a scientific object, which is treated as a pure fact of nature. However, the embryo which is the focus of reproduction technologies and the life sciences is, as Sarah Franklin has noted, a cyborg, that is, an organic, technological, and at the same time legal-social entity. 'Though it is fully human (for what else can it be?), it is born of science, inhabits the timeless ice land of liquid-nitrogen storage tanks, and feeds on special (pure) culture in its Petri dish. At once, potential research material (scientific object), quasi-citizen (it has legal rights), and potential person (human subject), the embryo has a cyborg liminality in its contested location between science and nature' (Franklin, 1995: 337). The complex technological and social conditions that constitute the object 'embryo', however, are excluded from bioethical discourse. Instead, the various stages of biological development are considered as natural facts that can justify the political regulation of scientifico-technological interventions. In the stem-cell debate, for example, the various phases from fertilisation to birth have been discussed with regard to the validity of the arguments pertaining to continuity, potentiality and identity. Therefore, from the perceived scientific 'objectness' of the embryo and its development, certain regulative actions are derived. This scientistic bias results in not considering the actors, institutions, practices and needs associated with the embryo's formation. This means that a systematic parallel consideration of gender-related factors is made difficult or blocked entirely. The gender dimension can, after all, only be comprehended if social relations, cultural representations, ways of living and forms of identity are addressed, but not through isolated incidents or individual technical procedures. The decontextualisation of ethics, science and technology thus has the effect of deproblematising and depoliticising issues considered beyond the compass of gender relations.

Because bioethics is thus characterised by the paradox of being a political ethics that ignores the political, feminist interventions must take up the task of rethinking the relationship between ethics, politics and society. This would include, if nothing else, a transformation of feminist bioethics as it emerged in the 1990s.[3] From the ranks of feminist bioethicists, much criticism has been expressed about the neglect of categories of race/ethnicity, class, gender, sexuality, disability and age; however, a questioning of the bioethical functional paradigm has not taken place. By 'focusing on the generic human being,' as the often-repeated criticism states, mainstream bioethicists 'have generally imagined that what is arrogantly believed to be the norm for all persons (white, educated, healthy males) is representative for all people in the

same circumstances' (Sherwin, 2001: 13). Therefore, the intention 'to transform a conservative male discourse into a site of social change' has been expressed by several authors (Nicholas, 1999: 242). Yet, as Hilde Lindemann has concluded when looking back at past decades: 'there has been almost no theory-building of any kind' (2007: 118). This has led, among other things, to feminist bioethics remaining within the paradigm of applied ethics. A critique of this would, however, constitute a bioethics capable of reflecting on social, and therefore gender-political, dimensions of biotechnologies. Going beyond applied ethics, ethics could be conceived as an ensemble of positions and projects belonging to the social processes of deliberation. Ethical considerations might then be subsumed within a 'politics of needs interpretation' (Fraser, 1990) in which projects of the social realm and of the future are contested. Such an ethics would also allow for reflection on diverse material and symbolic orders that enable or restrict the participation of technology in social relations. It would include the questions of how certain articulations of needs become hegemonic and which problems and perspectives are concealed by philosophical modes of thinking that structure the terms of debate.

Bio-technosciences and the Transformation of 'Human Nature' – The Renaissance of Anthropology

The third complex that presents some theoretical challenges for philosophical gender studies is constituted by the current revival of anthropological vocabularies. The philosophical debates around the bio-technosciences are reactivating the concept of the human in the singular, an assumed universality conceived as transcending social, cultural and also gender relations. This is especially the case with the renaissance of philosophical anthropology, a domain which had long been peripheral in the academic field, but which is now particularly prominent in the German-speaking world. Furthermore, a postmodern perspective rearticulates a humanist vocabulary previously disavowed by the philosophical critiques of the subject. Yet from a gender studies point of view, these developments are quite problematic, since the collective singular, 'the human', is still mostly represented as a masculine subject. The 'first step in every feminist confrontation with traditional philosophy' consists, as Cornelia Klinger has stated, in the 'critique of the human as a neutral and universal concept' (2005: 334). This also holds true for more recent representations of 'the human,' even if the masculinist perspectives are not as obvious as they are in the work of Peter Sloterdijk.

In his 1999 address, *Regeln für den Menschenpark. Ein Antwortschreiben zu Heideggers Brief über den Humanismus*, Sloterdijk caused a scandal because, drawing from Plato's concept of the state and Nietzsche's concept of breeding, he argued for a 'codex of anthropotechnics' to regulate the use of gene technology as an instrument of domination. In the subsequent scandal that raged particularly within the German public media, Sloterdijk's masculinism was nevertheless not addressed; however, it is apparent in his project of a 'regal anthropotechnics'. In such a project, the statesman is given, among other things, the task of 'planning the characteristics of an elite, that must be brought up for this specific role' (Sloterdijk, 2001b: 335). Thereby, the

'optima of the human species' might be 'stamped into the fabric of the social community' (Sloterdijk, 2001b: 334), namely the virtues of 'warrior-like fortitude' and 'philosophical-human prudence' – virtues that Plato attributed to the free man of the polity who held dominance over women, slaves and foreigners. More explicitly, the human as man is presented in the text *Domestikation des Seins. Die Verdeutlichung der Lichtung*, where, according to Sloterdijk, 'the implications of the "Human Park" speech for anthropology and the philosophy of technology' can be found (2001a: 10). Borrowing from the androcentric tradition, according to which human evolution was carried forward by the (male) human as hunter and warrior, the human in this discourse is conceived of as thrower and striker. The 'primordial scene' of Sloterdijk's narrative is essentially that 'sequence of actions in the course of which the proto-human, presumably an agile East-African savannah monkey with generic traits, more of a carrion-eater than a hunter . . . picks up a stone . . . in order to use the instrument in his hand and forces phenomena in the environment to give way, either by throwing into the distance or striking nearby' (ibid: 179). By this act of power, according to Sloterdijk, 'the ontological niche of the human opens in nature' (ibid). He believes that at that moment also 'the principle of technics', and thus ultimately also of genetics, emerged (ibid: 180).

Although considered as an antithesis of Sloterdijk's position, Jürgen Habermas's pronouncements on gene technology present a further example of the recent proliferation of anthropological concepts. In addressing the issues associated with gene technology, Habermas has introduced an anthropological dimension to his philosophical argumentation. By stressing that the 'unavailability of the genetic bases of our bodily existence' (2001: 45) is a precondition for autonomy, he has expressed a critique of liberal, market-oriented eugenics. Into this critique, however, the naturalisation of human bodies is inscribed. The argument of the 'unavailability of the natural modus . . . of the bodily existence' of a person (ibid: 41) does not consider that each 'embodiment' has always already been socially decreed and that gender especially has been 'inscribed into the body' (Thomas Laqueur) in historically different ways. Thus, an anhistorical and a-political concept of nature becomes clear in the articulation by Habermas of reproduction and birth as 'self-regenerating life' (ibid: 101). This represents a complete abstraction of the process from human practice, from the social relations of reproduction, and especially from the mother. 'So the fact that a person can feel at one with his/her body,' Habermas's argument goes, 'seems to be necessarily experienced as natural – as the progression of the organic, self-regenerating life from which the person was born' (ibid). Relationships between the social and the natural, which include the historic-specific relationships with bodies, are structurally concealed here, as are gender relations. Therefore, the construct of human nature and of an 'anthropological self-understanding', which – according to the critique by Habermas – is questioned by gene technology, proves to foreclose discourse around the complexity of relations among humans and especially of gender relations.

A third example of the re-emergence of an anthropological vocabulary that should be mentioned briefly here is Bruno Latour's 'symmetrical anthropology'. The innovative aspect of Latour's actor-network theory is that it attributes agency also to non-human elements, whether they are natural conditions or artefacts, within the infrastructure of certain 'networks', that is, complexes of human and non-human

actors. Latour stresses that the entire field of what he calls 'nonhumans' also 'act, displace goals, and contribute to their redefinition' (1994: 38). However, insofar as Latour points to the materiality of technical activity, above all the materiality of things, he homogenises human and non-human acting. Latour's concept of symmetrical anthropology, which attributes equal subject status to both human and non-human elements with a network, thereby erases all relevant differentiations necessary to understand the specificity of human action. The dualism of the human and the non-human also contributes to a conceptual de-differentiation of the complex of relations involving all those who fall within the human-actor category.

As the Latour example shows, however, the current renaissance of anthropological and humanistic concepts is not always connected with masculinist or androcentric ideologemes. Nevertheless, the concern remains the systematic problem, that is, whether certain concepts allow gender relations to be theoretically addressed or whether their consideration is structurally precluded. The latter is the case with the concept of the human in the singular, because it essentially ignores notions of difference, hierarchy, power relations and dominance. As with the critique of philosophical naturalism, the field of gender studies has to deal with the problem that its analyses and frequently expressed critiques are overtly ignored in philosophical discourse. Therefore, the renaissance of anthropological modes of thinking results in a changed context that requires a re-evaluation and re-articulation of earlier results of feminist research. This means that problems currently articulated through (post-)humanist and anthropological discourses, namely the ways in which new technologies, new practices for transforming bodies and new forms of subjectivity are interrelated, must be analysed with regard to the continuities and discontinuities in gender relations.

Perspectives of Gender Studies in Philosophy

This sketch of philosophy's engagement with bio-technosciences and the situation of gender studies within this field highlights a contradictory picture. Where perspectives of gender studies are clearly present, as in feminist bioethics, they are still strongly tied to hegemonic constellations whose systematic limitations are not addressed. In other debates, such as that on neurosciences and philosophy, or with regard to the re-emergence of anthropological concepts, feminist responses are currently only weakly formed, although philosophical gender studies over recent decades have produced many critiques and insights that may well bear fruit in the new settings. However, it seems as if the transformation of philosophy and the renegotiation of disciplinary boundaries have led to an even stronger rejection of feminist philosophy and the criticisms formulated over the last few decades with regard to traditional philosophy. Therefore, a central task for feminist philosophy is to adopt and further develop these 'archives' in relation to the new contexts and constellations. This requires addressing the changes in the contemporary epistemic order, in order to be able to consciously engage with these processes of change. The opening-up of the academic discipline of philosophy to questions raised by the bio-technosciences and the questioning of handed-down boundaries and demarcations is thoroughly welcome. However, it is important not to limit this opening-up to the natural sciences alone, but also to con-

ceive new relationships between philosophy, the social sciences and the humanities, and especially the place and function of gender studies in all these fields.

Such a broadening of the discipline of philosophy and a transformation of the internal constraints that regulate the form of knowledge production in the field are shown to be urgently needed from the perspective of gender studies, which from its beginning has questioned the narrow frameworks of academic disciplines. Philosophy alone, or any other single discipline, cannot answer questions that arise from and within gender relations and from the attempt to change social relations by exposing relations of power and dominance. The complexity of gender relations that are simultaneously material and symbolic and comprise individual practices and experiences as well as social structures requires that scientific analyses, at least in principle, attempt to connect these various dimensions and to integrate the knowledge of other disciplines. The focus on social and political problems that has been a constitutive element of gender studies from its very beginning and which has had a centrifugal effect with regard to other academic disciplines, has led to the field being strongly inter- and transdisciplinary – even though this has not provoked much response in the field of philosophy until now. This does not intend to suggest that critique of disciplinary boundaries is necessarily praiseworthy, nor thereby to forget that hierarchy, inclusions and exclusions also shape inter- and transdisciplinary fields of research. However, philosophical gender studies can derive important stimuli from current debates on transdisciplinarity and the transformation of disciplines that should prove fruitful for a re-conceptualisation of philosophical praxis in a changing order of knowledge.

Susanne Lettow
University of Paderborn

Notes

1. For an overview, cf. Nagl-Docekal (2004), Klinger (2005) and Alcoff and Kittay (2007).
2. Already in the 1930s, the ideas of the Vienna Circle extended to include ethics. Since ethical judgements cannot be reduced to analytical judgements and are not empirical claims, Alfred Jules Ayer concluded that ethical expressions were 'pseudo-concepts'. The concept of 'meta-ethics' thus should constitute an area 'consisting of reflections about what people mean when they use words like 'right' or 'wrong', 'good' or 'evil', or when they attribute blame or praise' (Jonsen, 1998: 72).
3. Although genetic and reproduction technologies had been subjects of feminist theory and politics since their emergence in the 1970s, the context of a feminist bioethics formed relatively late. The Network on Feminist Approaches to Bioethics (FAB) was founded in 1992; the first conference of the network took place in 1996.

References

Alaimo, S. (2008) 'Trans-corporeal feminisms and the ethical space of nature,' in S. Alaimo and S. Hekman (eds), *Material Feminisms*, p. 237–264. Bloomington & Indianapolis: Indiana University Press.

Alcoff, L. M. and Kittay, E. F. (eds) (2007) *The Blackwell Guide to Feminist Philosophy*. Malden and Oxford: Blackwell.

Block, N. (2003) 'Neurophilosophy or Philoneuroscience,' *Science* 310: 1328–1329.
Dennett, D. C. (1991) *Consciousness Explained*. Boston, MA: Little, Brown & Co.
Franklin, S. (1995) 'Postmodern Procreation: A Cultural Account of Assisted Reproduction,' in F. Ginsburg and R. Rapp (eds), *Conceiving the New World Order. The Global Politics of Reproduction*, p. 323–345. Berkeley, Los Angeles and London: University of California Press.
Fraser, N. (1990) 'Struggle over Needs: Outline of a Socialist-Feminist Critical Theory of Late-Capitalist Political Culture,' in *Women, the State, and Welfare: Historical and Theoretical Perspectives*, ed. Linda Gordon, p. 205–231. Madison: University of Wisconsin Press.
Goebel, B. (2005) 'Probleme eines philosophischen Naturalismus,' in B. Goebel, A. M. Hauk, G. Kruip (eds), *Probleme des Naturalismus. Philosophische Beiträge*, p. 23–42. Paderborn: Mentis.
Habermas, J. (2001) *Die Zukunft der menschlichen Natur. Auf dem Weg zu einer liberalen Eugenik?* Frankfurt/Main: Suhrkamp.
Haraway, D. (1988) 'Situated Knowledges: The Science Question in Feminism and the Privilege of a Partial Perspective,' *Feminist Studies* 14(3): 575–599.
Jonsen, A. R. (1998) *The Birth of Bioethics*. New York and Oxford: Oxford University Press.
Keil, G. (2001) 'Rorty und der Eliminative Materialismus – eine Mesalliance?' in Th. Schäfer, U. Tietz and R. Zill (eds), *Hinter den Spiegeln. Beiträge zur Philosophie Richard Rortys mit Erwiderungen von Richard Rorty*, p. 56–72. Frankfurt/Main: Suhrkamp.
Keil, G. (2005) 'Anthropologischer und ethischer Naturalismus,' in B. Goebel, A.M. Hauk and G. Kruip (eds) *Probleme des Naturalismus. Philosophische Beiträge*, p. 65–100. Paderborn: Mentis.
Keil, G. and Schnädelbach, H. (2000) 'Naturalismus' in G. Keil, and H. Schnädelbach, *Naturalismus. Philosophische Beiträge*, p. 7–45 Frankfurt/Main: Suhrkamp.
Klinger, C. (2005) 'Feministische Theorie zwischen Lektüre und Kritik des philosophischen Kanons,' in H. Bußmann and R. Hof (eds), *Genus. Geschlechterforschung/Gender Studies in den Kultur- und Sozialwissenschaften*, p. 329–364. Stuttgart: Kröner.
Latour, B. (1994) 'On Technical Mediation – Philosophy, Sociology, Genealogy,' *Common Knowledge* 3(2): 29–64.
Lindemann, H. (2007) 'Feminist Bioethics: Where We've Been, Where We're Going,' in L. M. Alcoff and E. F. Kittay (eds) *The Blackwell Guide to Feminist Philosophy*, p. 116–130. Malden and Oxford: Blackwell Publishers.
McNeil, M. (2007) *Feminist Cultural Studies of Science and Technology*. London and New York: Routledge.
Metzinger, Th. (1993) *Subjekt und Selbstmodell. Die Perspektivität phänomenalen Bewußtseins vor dem Hintergrund einer naturalistischen Theorie mentaler Repräsentation*. Paderborn, München, Wien an Zürich: Schoeningh.
Nagl-Docekal, H. (2004) *Feminist Philosophy*. Boulder and Oxford: Westview Press.
Nicholas, B. (1999) 'Strategies for Effective Transformation,' in A. Donchin and L. M. Purdy (eds), *Embodying Bioethics. Recent Feminist Advances*, p. 239–252. Lanham and Boulder: Rowman & Littlefield.
Putnam, H. (1975) 'Philosophy and our Mental Life,' in H. Putnam, *Mind, Language and Reality. Philosophical Papers*. Vol. 2, p. 291–303. Cambridge: Cambridge University Press.
Sellars, W. (1963) *Science, Perception, and Reality*. London: Routledge.
Sherwin, S. (2001) 'Feminist Reflections on the Role of Theories in a Global Bioethics,' in R. Tong, G. Anderson and A. Santos (eds), *Globalising Feminist Bioethics. Crosscultural Perspectives*, p. 12–26. Boulder and Oxford: Westview Press.
Sloterdijk, P. (2001a) 'Domestikation des Seins. Die Verdeutlichung der Lichtung,' in P. Sloterdijk, *Nicht gerettet. Versuche nach Heidegger*, p. 142–234. Frankfurt/Main: Suhrkamp.
Sloterdijk, P. (2001b) 'Regeln für den Menschenpark. Ein Antwortschreiben zu Heideggers Brief über den Humanismus', in P. Sloterdijk, *Nicht gerettet. Versuche nach Heidegger*, p. 302–337. Frankfurt/Main: Suhrkamp.