figura come l'ennesima immagine iconica sullo schermo, foriera di quelle "emozioni senza movimento", che danno il titolo a uno degli ultimi paragrafi del volume (p. 244), bensì come lo sfondo entro cui le altre icone perdono il carattere bidimensionale in cui vengono solitamente percepite, e divengono quei *phantasmata* evocati nella seconda parte della raccolta, quelle "immagini nell'atto del narrare" (p. 197), qualcosa di molto più effettivo, vibrante, risuonante.

Alessandro Sarti, Giovanna Citti (a cura di), *Dynamiques post-structurelles. Essais sur le devenir des forms*, Spartacus Idh, 2024 [Alessandro Montefameglio]

The text we are about to present, *Dynamiques post-structurelles. Essais sur le devenir des forms (2024),* edited by philosophers and mathematicians Alessandro Sarti and Giovanna Citti for Spartacus-Idh, is a seminar-based work. The text gathers eight contributions conceived during the 2020/2021 research seminar at École des hautes études en science sociales (EHESS) in Paris. Our annotation is not didactic. Unlike the usual collections of essays that compile the results of conferences or seminar works, the text edited by Sarti and Citti deeply reflects the nature of the research conducted by the workgroup led by the two authors. The theme of the becoming of forms is addressed, as explained in the introduction, starting from the field of contemporary French philosophy, particularly following the theoretical work of authors such as Gilbert Simondon and Gilles Deleuze. However, it is the interdisciplinarity that truly characterizes this research, where purely philosophical reflections are accompanied by contributions from mathematics, physics, natural sciences, semiotics and arts, thereby profoundly broadening and enriching the theoretical space.

It is impossible to account for the wide-ranging spectrum of themes addressed by each author within the limited space of a review – we leave to the reader the task and pleasure of exploring the specifics of each essay. What is useful to do here, rather, is to engage with the fundamental theoretical environment that permeates and animates the volume, reflecting the distinctive work of the research group. To understand the essence of this environment, however, one must refer, not without a certain paradox, not to any of the terms contained in the title of the text under examination, but to an implicit philosophical concept, a sort of a 'dark precursor', to use Deleuze's term, that runs through the entire work. This is the morphogenetic concept of *differential heterogenesis*, expounded in a now indispen-

sable text for Deleuzean-poststructuralist studies and beyond, namely *Differential Heterogenesis. Mutant Forms, Sensitive Bodies* (Springer 2022), conceived, in addition to Alessandro Sarti and Giovanna Citti, by David Piotrowski. It is truly impossible to understand the spirit that animates our essay without referring to the fundamental contents of this text, around which the contributions we reference revolve like a gravitational center.

What does differential heterogenesis mean from a morphogenetic perspective? The introductory part of the essay by Mattia Galeotti and Luca Cabassa in *Dynamiques post-structurelles*, where the two authors retrace some of the fundamental contents of the volume by Sarti, Citti, and Piotrowski, may represent a useful starting point to understand it. If we were to summarize the concept in a few words, morphogenesis consists of the passage from an intensive dimension (the field of forces) to its expression in aesthetic forms (space and time), and thus from a pre-individual plane to the individuation of spatio-temporal forms. It is not a process that has an end: according to the three authors the individual is never determined but is perpetually in formation, a fact that implies, from an ontological point of view, the definitive non-existence of the individual as an entity, but only as an infinite process. When does the concept of differential come into play? Here it is inevitable to refer to the Deleuzean approach to the conceptual question. The transition from intensive to extensive (Simondon would say: from pre-individual to individual), for Deleuze occurs in terms of solving a problem and, in particular, integrating (in the mathematical sense) a differential problem. In doing so, the intensive plane results in a constellation of differential constraints that generate a dynamic, where the term "differential" indicates the relationship between differences at the moment they approach zero. The truly surprising fact is the dissimilarity that is established, however, between differences and the differential relationship: while the differences approach zero, the relationship remains. This persistence of something despite the zeroing of differences constitutes the meaning of intensive quantities. If understanding becoming and morphogenesis means understanding the process of actualizing intensive quantities, then it is necessary to investigate these quantities first, to investigate the generative rules of extensivity.

Why then heterogeneity? To explain this, it is necessary to understand what it means to deal with such an intensive plane. The intensive plane can be conceived of in at least three different ways: 1) it can be conceived of as fixed, and thus the generative rules remain fixed: this is the case of mathematical physics, where the differential constraint dictating the dynamic is

homogeneous in space and time; 2) variations can be introduced on the intensive plane, varying the parameters in a space of possibilities (this is the idea of Jean Petitot and René Thom) to see if the system arrives at this or that stable configuration: this is the case of dynamic structuralism, where the term "structure" indicates the n-parameters controlled in the space of possibilities; 3) there is finally the authentically heterogenetic model, where it is not the forms in the structure that transform, but the very laws that regulate them: this is the case of Deleuzean heterogenesis, according to whom the differential constraint changes from point to point, where the virtual plane is defined by a multiplicity of different, heterogeneous differential constraints (forces, rules).

The different ways of conceiving of the intensive plane are well expressed, regarding the idea of the becoming of forms, by different ideas concerning the transformative process of metamorphoses, of which the three authors provide, in a central part of the text, the mathematical framework. The example considered by the authors to explain what an authentically heterogenetic metamorphosis consists of is that of Ovid's metamorphoses: unlike, for example, the "linear" transformation of a caterpillar into a butterfly, where the final heterogeneity (the difference between the caterpillar-form and the butterfly-form) is the outcome of a transformative possibility already inherent in the structure of the caterpillar, although following the vector of this or that specific formality (the different colors of the wings, for example), in the metamorphoses illustrated by Ovid, the outcome of the metamorphosis is non-structural. It is not foreseen by the structure of Daphne's body, for example, to become a tree, as illustrated by the painting of Piero del Pollaiolo considered by the three authors: hers is an absolutely heterogenetic metamorphosis, because only by varying the structural, intensive, and virtual rule behind the morphogenetic process is such a transformation possible.

What do the authors of the essays under examination accomplish then in *Dynamiques post-structurelles*? The nine authors delve into the specific directions, possibilities, and consequences of the model under examination, contributing to testing its scope both conceptually and in terms of possibilities for interdisciplinary actions, from aesthetics to art (Stefania Caliandro, Maria Giulia Dondero, Jean-Claude Bonne), from information theory to automation theory (Anna Longo, Igor Pelgreffi), from literature to semiotics to life sciences (Noëlle Batt, Claudio Paolucci, Mattia Galotti, Luca Cabassa).

As proof of the theoretical solidity of the contents of the individual essays, of which we certainly cannot reconstruct the density of content, it

is useful to at least highlight one of the many constellations that connect ('assemble', Deleuze would say) the various essays. What emerges, for example, is the importance assigned to the concept of the diagram. Noëlle Batt, who has devoted significant studies to this notion, here illustrates the importance of the diagram starting from a reflection related to the literary gesture, in a conceptual palimpsest that, in addition to the theories of authors like Jurij Lotman, applies some Deleuzean concepts such as 'change of nature' and 'minor language'. To observe the outcome of the theory of differential and heterogenetic becoming of forms in the context of literary writing, Batt states, for example, that "lorsque l'écrivain travaille le virtuel, de nombreuses dynamiques non stabilisées sont à l'œuvre et circulent avant que l'une d'entre elles ne domine et ne conduise au choix de la constellation de points singuliers qui seront ensuite actualisés dans les mots, le rythme, la configuration générale du texte" (p. 15). The concept of the diagram, based on its formulation in Peirce, Foucault, and Deleuze, and which Batt outlines the defining features of, intervenes from the moment it is stated that the literary gesture is transmitted not only by combining signs according to the syntactic and semantic rules of the language but also by highlighting infra-semantic and discontinuous elements. These elements imply a 're-linking over discontinuity' (the terminology is Deleuzean), thus rendering the literary text as a multi-layered text, a score-text or an image-and-sound text that is non-linear.

The same concept is operational in Dondero's essay in the photographic and pictorial fields, where the morphogenetic scope of the diagram allows the conversion of purely logical relations into proper spatial models. But also in the essay by Galeotti and Cabassa, this time of a philosophical-mathematical nature, the diagram demonstrates, in the conceptual architecture that supports the essay, crucial importance: here it assumes an eminently virtual, heterogeneous, aionic and transcendental character, which the mathematician can recompose, but which is placed in analogy with the concept of *exaptation* regarding the evolution of life. The diagram, which does not act alone but operates as a 'diagram of diagrams', thus operates just like exaptation, whose action finds its condition of possibility in the potentialities of further exaptations.

The broad spectrum offered to the reader by the eight contributions of *Dynamiques post-structurelles* represents the fertility of a truly new and innovative field of research, fueled by the activities of an increasingly active and avant-garde workgroup. Philosophy truly demonstrates here its great capacity to dialogue with the sciences, starting from the mathematical-physical ones, in a chiasmus where disciplinary specificities fade into

the sign of common work on a broader topological conceptual plane. On this multiplicity of voices, on this variety of intents, and on the strength of this work, the Deleuzean dream of an authentic creation of concepts is thus realized following 'heterogenetic' spirit on which the roots of this research are founded.

Shannon Vallor, *The AI Mirror. How to Reclaim Our Humanity in an Age of Machine Thinking*, Oxford University Press, Oxford 2024 [Francesco Terenzio]

Nel panorama delle moderne tecnologie, le intelligenze artificiali si configurano come un pericolo del tutto particolare: a differenza degli ordigni di distruzione di massa, le IA non minacciano il nostro futuro in maniera diretta: ci rendono piuttosto impossibile immaginare e pensare il nostro stesso futuro. Con queste premesse si apre *The AI Mirror,* saggio in cui Shannon Vallor si confronta con le principali questioni etiche che sorgono dall'incontro tra intelligenze artificiali e vulnerabilità dell'umano.

L'argomentazione del libro prende spunto da una vicenda concreta: Blake Lemoine, un ingegnere di Google, nel 2022 aveva affermato che LaMDA, modello linguistico sviluppato dal colosso di Mountain View, sembrava aver sviluppato una propria coscienza. Per l'autrice del libro si tratta di un episodio emblematico in quanto rende chiara una caratteristica peculiare delle intelligenze artificiali: esse si configurano come "immensi specchi dell'intelligenza umana" (p. 2). Proprio in virtù della loro natura di 'specchi', i pericoli che sorgono dalle intelligenze artificiali sono differenti da tutte le minacce con cui l'uomo si è confrontato nella storia: non si tratta più di nemici in agguato nel mondo esterno, ma tecnologie che minacciano l'essere umano dall'interno della sua stessa umanità. "Non possiamo combattere le IA senza combattere anche contro noi stessi" (p. 4), esse sono estensioni dei valori umani nel mondo esterno. L'obiettivo che Vallor si pone con questo libro è dunque quello di consegnare nelle mani dei propri lettori gli strumenti filosofici necessari per comprendere le intelligenze artificiali, relegate oggi a 'specchio dell'umano', e collocarle nel loro giusto ruolo di strumento attraverso il recupero dei valori propri dell'uomo.

Il primo capitolo si divide in tre parti e introduce il lettore alle principali problematiche che sorgono dall'uso delle IA. Nella prima parte, ripercorre una breve storia della nascita del concetto di intelligenza artificiale che va dai contributi di Babbage e Lovelace al celebre articolo di Turing, fino ad arrivare alla conferenza di Darthmouth del luglio 1956 e alla prima