



2 **Lorenzo Magnani: Discoverability—the urgent need of an ecology**
3 **of human creativity**

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9 *Discoverability: the urgent need of an ecology of human*
10 *creativity* may be of special interest to philosophers, ethicists
11 and scientists involved in the development of AI and related
12 technologies increasingly directed at reinforcing conditions
13 against which author Lorenzo Magnani warns here, namely
14 the “overcomputationalization” of life marked by the gradual
15 encroachment of technologically “locked strategies” into
16 everyday decision-making until “freedom, responsibility,
17 and ownership of our destinies” are ceded and we, in paral-
18 lel, build a future unfit for human creativity. Professional
19 educators, policy-makers, parents, and social activists con-
20 cerned about the effects of technologies on development and
21 well-being may benefit from reading this work, in addition
22 to researchers in creativity, in abduction, and social–political
23 philosophers, and philosophers of science interested in the
24 epistemology of discovery as influencing social transforma-
25 tion following Polanyi and Kuhn.

26 The preface establishes the context in which the book is
27 composed and the aim of its information. Magnani echoes
28 Pope Francis in stressing the importance of “human creativ-
29 ity” in the solution of pressing problems, sees that any and
30 all possible solutions depend on human creativity, and in
31 this context urges attention to the “ecology of human creativ-
32 ity” as it is under assault. Recent years’ evidence aggres-
33 sive manipulation of scientific inquiry by corporate interests
34 and “perverse” public policy which in concert arbitrarily
35 constrains discourse, blocks “creative abduction” of opti-
36 mal solutions, and repurposes science and scientists for the
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profitable pursuit of selfish, short-sighted interests, promis-
ing dystopic consequences. 38

Magnani’s case is deeply grounded. His (2007) mono-
graph *Morality in a technological world: Knowledge as duty*
argues that people have a duty to develop creative poten-
tials to solve pressing problems. *The abductive structure of*
scientific creativity: An essay on the ecology of cognition
(2017) argues that situating conditions facilitate (or cripple)
the development and exercise of these potentials. Magnani’s
fear, now, is that continued constraint of creative abduction
is an evolutionary dead-end recognizable as a technologi-
cally mediated new Dark Age of repression enforced through
mechanisms described in his 2011 *Understanding Violence*. 39
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The first chapter of this book applies the “eco-cognitive”
(EC) model of cognition to the issue of discoverability. Dis-
cussion flows through the formal logic of abduction, from
Aristotle and the “bridge of asses” through Peirce and the
“fill-up” problem, into an input–output information-process-
ing model of discovery that corresponds well with recent
predictive processing approaches (Magnani’s “embubble-
ment” describes a Markov blanket, for instance) and gener-
ally “4E” cognition (Magnani captures these Es under the
heading of eco-cognitive situation). The basic idea is that
cognition involves input and output in a feedback loop with
a situating environment. Creative abduction bridges current
input and associated internal dynamics (troubled) with ideal
input and associated internal dynamics (untroubled) by way
of this environment. The significance of this process in solv-
ing pressing problems is clear: creative abduction affords
opportunities to get past them. 50
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Without conditions facilitating discovery of practi-
cal solutions, obstacles cannot be overcome regardless of
context. The second chapter considers how opportunities
and affordances, for creative abduction, may be created.
The third chapter addresses the issue of openness to such
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72 opportunities, illustrating how public policies “impoverish”
73 abduction by arbitrarily closing off to optimal opportuni-
74 ties in pursuit of private interests. Section 3.5.2, for exam-
75 ple, exposes the “perverse” commercialization of science
76 as policy-makers facilitate for-profit co-option of scientific
77 inquiry (including the education of scientists) in furtherance
78 of private interests, while taking for granted supporting work
79 priming these results.

80 The fourth chapter, “Jeopardizing Discoverability”, illus-
81 trates how manifest impoverishment of the ecology of abduc-
82 tion currently threatens human creativity, and with it surviv-
83 ability. The “undisciplined commodification of abduction
84 in science” directs the development of epistemic (scientific)
85 niches, e.g., publicly funded research programs and educa-
86 tion, simultaneously suppressing alternatives while privatiz-
87 ing-away marketable, patentable and profitable results. In the
88 context of pharmaceuticals, we see profit-driven pressures
89 on scientists to discover “blockbuster” big-earner single-
90 vector treatments disregarding whatever cannot be claimed
91 as private property, i.e., un-patentable, relatively inexpen-
92 sive, commonly available, time-tested often traditional holis-
93 tic cures. Meanwhile, for all of the money “invested” into
94 research and development so constrained, returns have been
95 low. Failures continue to mount. Pressures increase. Optimal
96 solutions elude, avenues for inquiry into alternatives which
97 do not benefit controlling interests, are further constrained
98 while those that do see increasing public funding. Creative
99 abduction shuts down. This is where Magnani finds us, now,
100 and the picture gets worse.

101 The fifth chapter illustrates how epistemic impoverish-
102 ment not only kills creativity but rewards ignorance. The
103 overt “domestication” of computational artifacts with result-
104 ing “overcomputationalization” of daily life practically nul-
105 lifies creative abduction, encouraging selective ignorance in
106 individuals on the one hand while systemically reinforcing
107 “redundant and oppressive political, ideological, and eco-
108 nomic aims” on the other (Sect. 5.1.2, “Protecting Ignorant
109 Entities”). Through perverse marketing of scientific discov-
110 ery, people are embubbled, trapped in digital feedback loops
111 through e.g., addictive algorithms. Magnani’s fear is that big
112 data manipulation may encourage such entrainment (for pri-
113 vate profit, through public policy) exclusively, resulting in an
114 informational monoculture (such as may be anticipated with
115 EU funding education of scientists to develop AI to censor
116 the Web, today) and an ecological collapse of human creativ-
117 ity. With Magnani’s ecology for creative abduction pruned
118 by computers according to a central vision, representative
119 outliers—recalling Hintikka’s (2007) “oracles”—may face
120 increasing risks of automated sanction including digital ban-
121 ishment, being “canceled”, or perhaps re-educated (by an
122 AI) on the Canadian model of Jordan Petersen.

123 In this text, Magnani finds us swept up in the momen-
124 tum of ongoing transformation of what had been the public

sphere into the sprawling technocracy in which we are
increasingly—collectively if not collaboratively—enmeshed.
He sees this process as an aspect of the privatization of the
commons, generally, as a metastasis of Neo-liberalism that
threatens the world. While junior scholars making their way
in their fields are exhausted swimming against the rising
current that Magnani finds so dangerous in this text, it is a
testament to his scholarship that he has done the deep diving
to show the reader the roots of the problems that individual
researchers face at the turbid surface.

Readers familiar with Magnani’s prior works will find key
notions refined in this one. As he has developed his account
alongside contemporaries in philosophy of technology, cog-
nitive science, and applied logic, fresh readers can leverage
knowledge in these areas to unpack Magnani’s ideas, here.
For instance, *The abductive structure of scientific creativity*
(2017) parallels rising interest in ecological enactivism in
philosophy of cognitive science, and can be taken in part as
an alternative—in many ways more rigorous—accounting of
similar dynamics when associated concepts such as the EC
model are recalled in this book. Moreover, in *Discoverability*
as in prior works, Magnani’s thinking lends itself to intuitive
physical interpretation. For instance, he describes creative
abduction as a fluid state motivated by the hopeful poten-
tial of individual lives, “knowledge in motion”. Systematic
constraints on such dynamics redirect the flow of human
inquiry through scientists and their discoveries. Magnani
reminds us that, insofar as we can affect our situations, this
flow is within our control, and he leaves us in this condition,
“responsible for the preservation” of the conditions neces-
sary for inquiry and discovery, for science and human crea-
tivity, because the “abundance” of their “potential fruits”
“seems not to be an inalienable given” (page 124).

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