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1 The Foucauldian approach to conservation: pitfalls and genuine promises

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8

9 **Abstract** – Conservation biology is a branch of ecology devoted to conserving biodiversity.
10 Because this discipline is based on the assumption that knowledge should guide actions, it
11 endows experts with a power that should be questioned. The work of the French philosopher
12 Michel Foucault (1926-1984) can be seen as a relevant conceptual resource to think these
13 aspects of conservation biology through. I critically analyse the relevance of the Foucauldian
14 approach to conservation. I argue that Foucauldian arguments are deeply ambiguous, and
15 therefore useless for conservation purposes, unless they are supplemented with unsaid
16 assumptions that are, depending on the case at hand, untenable, or at least at odds with basic
17 assumptions underlying conservation biology. In any case, the prospects of using the
18 Foucauldian approach for conservation purposes are deeply undermined. However, the
19 Foucauldian reasoning contains some ideas that can be important and useful for conservation
20 purposes, if they are duly clarified.

21

22 **Keywords** – conservation biology, Foucault, power, knowledge, governmentality

23

24 **1. Introduction**

25 Conservation biology is an action-oriented and normatively-motivated branch of ecology
26 (Soulé, 1985). It has arguably played a historical role in the setting up of important conservation
27 actions, such as the establishment of national parks (Runte, 2010). However, a growing
28 literature now questions the ability of conservation biologists to design successful conservation
29 strategies (Jones, 2019) (Büscher & Fletcher, 2019) liable to halt the current biodiversity crisis
30 (Djoghlaif & Dodds, 2011). These weaknesses are sometimes explained by conservationists’
31 inability to adequately take into account the complexity of the psychological, social, and
32 cultural processes underlying both anthropogenic impacts on biodiversity and initiatives
33 deployed to protect it (Mascia et al., 2003) (Kopnina & Washington, 2020) and, more
34 specifically, by their inability to take into account the difficulties generated by power
35 imbalances. Beyond ignoring power, conservation biologists can even be caught in mechanisms
36 through which they (mostly unwittingly) strengthen existing power relations, with detrimental
37 implications for biodiversity (Devictor & Meinard, 2019). For example, this is the case, at least
38 according to some authors, of biodiversity offsetting mechanisms (Gibbons & Lindenmayer,
39 2007). Because it is articulated mainly in the terms of Western science, but fuels many projects
40 in developing countries, conservation can also be seen as form of green imperialism (Grove,
41 1995). These various readings of the predicament of conservation biology highlight the need
42 for conservation biologists to think through the relation between their knowledge and power.
43 Michel Foucault (1926-1984), a French philosopher whose thought has had a deep influence on
44 contemporary thinking on both sides of the Atlantic (Cusset, 2008), is increasingly considered
45 to be a major source in helping conservation biologists in this vital task (Carpenter, 2020). A
46 growing literature accordingly refers to Foucault in analyses of environmental projects
47 (Fairhead & Leach, 1996) (Agrawal, 2005) (Li, 2007) (Lougheed et al., 2016) and of
48 conservation knowledge (Carolan & Bell, 2003) (Biermann & Mansfield, 2014) (Srinivasan,
49 2017) (Youatt, 2008) (Kiik, 2019).

50 The present article is a critical analysis of the relevance and usefulness of this Foucauldian
51 approach to conservation. The phrase “Foucauldian approach” refers here to Foucault’s own
52 writings (which predate the emergence of conservation biology and are not specifically
53 concerned with environmental issues), and to the work of researchers explicitly referring to him
54 in analyses of conservation. Three key themes running through the works that Foucault
55 developed in the 1970’s will provide the structure of this paper: “power/knowledge”, “the
56 triangle” and “subject formation” (I will leave aside earlier works devoted to the so-called
57 “archaeology of knowledge” (Foucault, 1972) and later works on art and ethics (Foucault 1994),
58 because they are barely used in contemporary applications to conservation biology). I will have
59 more to say in the section on power/knowledge, which constitutes the backbone of Foucault’s
60 philosophy. The next two sections will be of decreasing length, because the three themes are
61 tightly connected.

62 In my critic, I will argue that Foucault’s texts and contemporary applications to conservation
63 are framed in a confusing rhetoric, which I will criticize by contrasting “the said” and “the
64 unsaid”. I use the former term to refer to what Foucault and Foucauldian authors literally write,
65 and the latter term to refer to implicit assumptions that they rarely explicitly state, but subtly
66 call for. I will argue that, if limited to the said, Foucauldian texts do not convey any clear
67 message. By contrast, supplementing the said with the unsaid turns these texts into bold,
68 thought-provoking claims. The Foucauldian corpus accordingly owes much of its traction to
69 the contribution of the unsaid. Unfortunately, the unsaid assumptions that the reader is subtly
70 encouraged to embark in his reading are untenable, or at odds with basic assumptions
71 underlying conservation biology.

72 Therefore, if limited to the said, Foucauldian claims are ambiguous; and if supplemented with
73 the unsaid, they are untenable. Either way, the Foucauldian approach as it stands proves
74 irrelevant to conservation purposes. However, I will also argue that the Foucauldian reasoning

75 contains some ideas that can be important and useful for conservation purposes, if they are duly
76 clarified.

77 I intend this reasoning to bear concrete lessons for conservationists to improve their theories
78 and practices, thanks to a better understanding of the power relations at stake in their
79 interventions. To illustrate these concrete lessons, I will refer to a case study –conservation
80 actions designed in the Rochières Area, South-east France, to preserve populations of
81 *Ophioglossum vulgatum* L., 1753, a legally protected plant species (Lelièvre et al., 2021). As a
82 botanical expert, I participated in designing these conservation actions, and could follow the
83 work of other consultants in this project. I will use this example to show how a clarified version
84 of the Foucauldian approach can be useful, whereas the original version is confusing.

85

86 **2. Power/knowledge**

87 Foucault’s contemporary influence owes much to his works on the relations between power and
88 scientific knowledge, epitomized by the concatenated word “power/knowledge” (Foucault &
89 Gordon, 1980) (Honneth, 1985) (Habermas, 1988) (Dreyfus et al., 1983) (Falzon et al., 2013).
90 This issue emerged only in the 1970’s in Foucault’s thought (although he touched on the subject
91 in his earlier works (in particular in Foucault, 1976) in an elusive form). This emergence is
92 marked by *The History of Sexuality, an introduction* (Foucault, 1978), but the main ideas were
93 elaborated in a series of lectures from 1970 to the early 1980’s, later published as books
94 (Foucault, 2008) (Foucault, 2003b) (Foucault, 2007) (Foucault, 2019) (Foucault, 2006)
95 (Foucault, 2003a) (Foucault, 2015) (Foucault, 2005) (Foucault, 2011). The understanding of
96 these Foucauldian works by English-speaking readers is also, to a great extent, based on
97 *Power/Knowledge* (Foucault & Gordon, 1980), a collection of articles by and interviews of
98 Foucault (Carpenter, 2020). In this first section, I will show that Foucault’s and Foucauldian

99 authors' usage of the terms "power", "knowledge" and "truth" in this line of thought is
100 ambiguous.

101 To demonstrate this point, I will simply point out discrepancies between various formulations,
102 without pretending to trace back the evolutions of Foucault's vision of power. Such an historical
103 task, which is difficult and tentative due to time-lags between writing periods and publications
104 themselves, and due to the reworkings and editings of texts, falls beyond the scope of the present
105 paper.

106 In *The History of Sexuality*, discourses are presented as tools used by actors engaged in power
107 trials. A prominent aspect of these early formulations is a highly deceptive use of terms like
108 "intentional", "objectives", "strategies," or "tactics." The usage of these terms stems from
109 Foucault's emphasis on the idea that power and discourse share the feature of being both
110 intentional (they follow objectives), and non-subjective, or "authorless" (Carpenter 2020, 13).
111 The idea that power and discourses are authorless is used to overcome the simplistic view that
112 discourses are entirely produced and mastered by powerful actors to foster their own interests.
113 Foucault rather understands power as a complex multiplicity, exercised through both discourses
114 and practices, unstable and ever-changing, and pervasive rather than confined to the top of the
115 existing hierarchy. This vision of power however creates a problem: if power is multifarious
116 and authorless, how can one delineate meaningful units of power ? Foucault's proposed solution
117 is to stick to a terminology that is usually associated with a reference to a subject or an author
118 ("intentional", "objectives", "strategies," or "tactics"), while insisting that, when he uses these
119 terms, they do not presuppose such a reference.

120 This idiosyncratic use of ordinary terminology is bound to create confusions. A much clearer
121 way to express the same idea would be to say that, by analysing power, one can see emerging
122 a logic which was neither created nor mastered *ex ante* by anyone. This is particularly well
123 illustrated by (Ferguson, 1990), who shows how bureaucratic state power ended up being

124 bolstered by development projects in Lesotho, even though this bureaucratic state had not had
125 any influence on the design of these projects.

126 Associated with this first (deceptively labelled, but genuine) aspect of the complexity of power,
127 another widely praised aspect of Foucault's approach to power is the idea that, although there
128 are links between power and knowledge, these links should not be oversimplified by claiming
129 that knowledge is always the exclusive instrument of powerful actors and only them. Actors
130 with political power can make use of knowledge and discourses seen as "tactical elements", but
131 those interested in resisting the powerful ones can also use them. Discourse can reinforce power,
132 but it can also undermine it. According to some authors, this "subtle" understanding of how
133 knowledge can serve power, but can also undermine it, is an important strength of Foucault's
134 approach, as compared e.g. with arguably more simplistic Marxist approaches according to
135 which everything is determined by dominant economic forces (Carpenter, 2020).

136 I argue that this idea undermines the usefulness of Foucault's analyses, at least for conservation
137 biologists. To understand why, let us come back to the reasons why an analysis of relations
138 between power and knowledge can be important and useful for conservation biologists.
139 According to Carpenter (2020), this is because "conservation thought and practice is power-
140 laden", and Foucault's thought provides "a tool-box of ideas about power (useful to) improve
141 the effectiveness of conservation" (p. 1). Carpenter (2020) goes on specifying that the power in
142 question lies primarily in "mistaken assumptions we (conservation biologists) hold about
143 people... and assumptions about our own superior knowledge". Hence the usefulness of
144 Foucauldian analyses would stem from the fact that they can help show that, through false
145 assumptions, conservation biologists and practitioners exert a form of power over people. In
146 this picture, conservation biologists and practitioners are presented as dominant actors, exerting
147 a form of power, based on their knowledge, over dominated people. Tracking and denouncing
148 their own power as dominant actors is an important pursuit for conservation biologists (even if

149 this triggers awareness about them being dominant and having to relinquish their dominance),
150 in line with Foucault' own vision of the role of the intellectual as an activist (Foucault &
151 Gordon, 1980). However, the role assigned to knowledge in this emancipatory endeavour is at
152 odds with the allegedly subtle understanding of relations between power and knowledge
153 mentioned above. In this vision of the emancipatory project, identifying who uses knowledge
154 is seen as the key to track who exerts power. However, if knowledge can be used by dominated
155 actors to resist dominant actors, then tracking who uses knowledge is no longer enough to
156 identify who exerts power.

157 If knowledge is considered employable by both dominant and dominated actors, an
158 emancipatory usage of the Foucauldian approach requires a logic distinguishing the kinds of
159 discourses that can feed dominance from those that can feed resistance. Carpenter's (2020)
160 aforementioned citation provides such a logic: in her argument, dominance is exerted through
161 *false* or *biased* assumptions. A major application of the Foucauldian approach to conservation
162 in Guinea, (Fairhead & Leach, 1996), goes in that direction. Fairhead & Leach (1996) show
163 that, because a colonialist-inspired vision of local people was particularly efficient in moulding
164 local authorities' understanding of ecological, social and historical issues, the latter
165 misinterpreted forest islands in the Guinean savanna as relics of forests destroyed by local
166 people, while in fact the forests were created by local practices in a landscape that would
167 otherwise have been entirely occupied by savannas. In this analysis, the entities that are
168 powerful are wrong discourses—discourses that have been accepted as true by some people at
169 a given period of time, but that eventually proved to be false. This story hence illustrates how
170 a false discourse can become powerful enough to endure. The lesson is not that conservation
171 biologists exerted a form of power through their knowledge. It is rather that, had they listened
172 to local knowledge, they would have both improved their knowledge and strengthened the

173 efficiency of their conservation actions. By the same token, they would have been more
174 respectful towards indigenous people.

175 The promising approach illustrated by (Fairhead & Leach, 1996) is, however, not at all the path
176 that Foucault has followed in his works. In all his formulations cited so far, Foucault maintains
177 the commonsensical distinction between power and knowledge, but he ambiguously uses
178 “discourses” and “knowledge” interchangeably. But Foucault will subsequently take increasing
179 distances with the ordinary understanding of “power”, “knowledge”, “truth” and associated
180 idioms.

181 In subsequent writings, truth will become “the ensemble of rules according to which the true
182 and the false are separated and specific effects of power attached to the true” (Foucault 1980,
183 131). This formulation epitomizes a reductionist (and relativist) view that consists in equating
184 truth with what is considered to be the truth at a given time point (this view is explicitly
185 endorsed in (Foucault, 1993)). Foucault (2011) refers to Nietzsche and to the philology of the
186 Ancient Greek term “Alètheia” (as famously explored by (Detienne, 1996)) to substantiate the
187 idea that how true and false are separated is not as immutable as a naive understanding of the
188 concept of truth might assume. However, this undeniable historicity of practices coupled with
189 the idea of truth (and its forebears) does not make it any less reductionist to claim that truth is
190 reducible to what is accepted to be true at a given moment (Williams, 2002) (Bouveresse, 2016).
191 Foucault often talks about “veridiction”, referring to the practices used to separate truths from
192 falsehoods in various contexts, rather than directly about “truth.” This terminological
193 precaution might suggest that he was well aware of the difference between truth itself and
194 various associated practices. However, because he never clarified what this distinction is
195 supposed to imply in his framework, the terminological precaution appears to be yet another
196 rhetorical artefact to juggle with the said and the unsaid. The said is about how power moulds
197 and is supported by “veridiction”, but because “veridiction” is the practice that states what is

198 true, and because it is trivial to claim that practices pretending to say what is true are sometimes
199 moulded by and supportive of power, the reader cannot but supplement the said by the obvious
200 unsaid assumption: what Foucault says about “veridiction” also holds for truth.

201 This tight link between power and truth characterizing Foucault’s late formulations is captured
202 by the phrase “regime of truth”, referring to the alleged fact that “[t]ruth’ is linked in a circular
203 relation with systems of power which produce and sustain it, and to effects of power which it
204 induces and which extends it” (1980, 133). Foucault’s phrasing is, characteristically,
205 profoundly ambiguous here. The word “truth” is used within quotation marks, which might
206 suggest that Foucault is not talking about truth, but about what some people deceptively call
207 “truth” for manipulative purposes. This seems to suggest that Foucault his not reductionist (in
208 the sense given to the term in the former paragraph) after all—but on other occasions he openly
209 is. Besides, he does not specify the nature of the “circular relation” he talks about. Should we
210 understand that *all* the truths are produced and sustained by systems of power (a reductionist
211 claim), or that it can happen (not a reductionist claim)? Should we understand that power is
212 instrumental in helping unveil an independent truth (not a reductionist claim), or that the so-
213 called truth is a pure artefact invented by systems of power (a reductionist claim)?

214 Whereas (Fairhead & Leach, 1996) carefully distinguished between knowledge and truth, on
215 one hand, and, false discourses based on colonialist prejudice (confusingly believed to be true
216 at a given period of time), on the other hand, we therefore see that Foucault’s thought rather
217 tends towards simply equating knowledge, power and truth, collectively referred to as
218 “power/knowledge”. Most of Foucault’s formulations carefully eschew explicitly endorsing
219 this equation. However, numerous formulations such as the ones cited above clearly hint in that
220 direction, and incite the reader to complement the said by this unsaid that turns Foucault’s
221 claims into bold criticism of knowledge in general.

222 However bold and thought provoking, the reasoning equating power, knowledge and truth is
223 evidently self-contradictory. Indeed, if all forms of knowledge and truth are nothing but power,
224 then the Foucauldian insights are nothing but expressions of power. But in that case, why should
225 we believe their claim that all forms of knowledge and truth are nothing but power? In addition
226 to being self-contradictory, this reasoning is incompatible with the emancipatory project
227 sustaining the alleged relevance of the Foucauldian approach for conservation. Indeed, if all
228 forms of knowledge and truth are nothing but power, then using our knowledge of how
229 knowledge itself is used by power is nothing but a form of power, which should be rejected
230 rather than employed by the emancipatory project.

231 In the radical interpretation that takes the power/knowledge concatenation seriously, the
232 Foucauldian approach is therefore untenable and irrelevant to conservation. However, if we
233 remove ambiguities in Foucault's claims, we can identify a simple, yet important idea. Complex
234 mechanisms come into play to establish, at any given moment within its specific context, which
235 discourses are considered to be true. These complex mechanisms are not mastered by any stable,
236 well-identified centre of power. They involve economic, administrative, and political logics.
237 Once these mechanisms have labelled a given discourse as "true", this gives it a vantage point.
238 The discourse presented as true can then be used by various actors or institutions, either to
239 reinforce their dominance or to resist being dominated. Beyond this instrumental use, the
240 diffusion and usage of presumptively true discourses can have unintended "power effects",
241 meaning that some actors can benefit from it while other are penalized, without anyone
242 orchestrating these effects. And all these mechanisms and events involved in the emergence
243 and usage of allegedly true discourses can be rather invisible to the very people who are
244 involved in their proceedings. Hence, the actual implication is that, when we are involved in
245 the functioning of these mechanisms, as conservation biologists and practitioners typically are,
246 we should pay attention to these mechanisms and events, and to their connection with and

247 implications for powerful actors and institutions (which can include scientists and scientific
248 institutions).

249 Such a modest version of the Foucauldian approach is illustrated by (Fairhead & Leach, 1996)’s
250 study, aimed at analysing how discourses (rather than knowledge or truth) can be used by actors
251 (possibly unwittingly) wielding a form of power. However, in this modest version, beyond the
252 clear distinction between knowledge, truth and discourses, there is the need to start from a
253 clarification of the forms of power that emancipatory projects can denounce. The modest, yet
254 rigorous and useful, version of the Foucauldian approach is therefore unavoidably based on a
255 normative vision of what is legitimate and what is not, or what is right or wrong, or what is
256 good or bad. The precise nature of the normative basis that is relevant for that purpose (i.e.,
257 whether this normative basis is a matter of legitimacy (Meinard, 2017) or a matter of justice or
258 ethics (Baron et al., 1997)) falls beyond the scope of this article. In the remainder of this text, I
259 will simply enlist the adjectives “legitimate”, “right” and “good”, or talk about a “normative
260 basis”. In Fairhead & Leach’s example, colonialist prejudice misled conservation biologists
261 who denigrated local people based on this prejudice. The critique is therefore based on the
262 premise that colonialist prejudice is based on illegitimate, wrong or bad power imbalances that
263 it reinforces in turn. By contrast, Foucault never endorsed nor developed any explicit normative
264 theory in his works on power/knowledge (although, as Fairhead & Leach’s example shows,
265 Foucault’s framework is not incompatible with a clarification of a normative basis).

266 Based on the reasoning spelled out so far, one can distinguish three versions of the Foucauldian
267 approach. The original version, which I propose to call “formal”, is limited to the said, and
268 mainly replaces references to “knowledge” by references to “power/knowledge”. A
269 “provocative” version supplements this said with the unsaid it implicitly calls for, by
270 denouncing knowledge as an oppressive power. Lastly, the “modest” version I champion strives

271 to identify how some actors can foster some power relation, possibly unwittingly, thanks to
272 some pieces of knowledge.

273 Let us examine how these three versions can be applied to our Rochières case study.

274 The formal approach would claim that the experts who were involved in drawing up the list of
275 legally protected species in South-east France (back in the 1990s) wielded “power/knowledge”
276 about species distributions and abundances. The formal approach would also claim that, during
277 field sessions to map and quantify populations of *Ophioglossum vulgatum* in the site, what I
278 was really doing was gathering “power/knowledge.” Still according to this narrative, by
279 handing over the data to the manager of the site and by using these data to design an action plan
280 for the future management of the site, I transferred “power/knowledge” to the manager .
281 Because these claims are purportedly not anchored in any normative basis, they do not involve
282 any judgment about whether these uses of power/knowledge are oppressive or emancipatory,
283 just or unjust, good or bad. They should not be understood as conveying any lesson. They are
284 mere reformulations, using a weird vocabulary, of descriptions that would ordinarily be
285 articulated in terms of “knowledge” or “science”.

286 According to the “provocative” version, when participating in elaborating the legislation
287 protecting *Ophioglossum vulgatum*, the experts and scientists involved were in fact exerting an
288 oppressive power. Similarly, when exploring the study site, counting individuals, assessing the
289 viability of sub-populations and registering their location, what I was really doing was nurturing
290 my dominance over some people (presumably, local stakeholders). Lastly, when implementing
291 management recommendations allegedly to preserve these populations, in fact the manager will
292 exert an illegitimate form of power over the same people. This version of the Foucauldian
293 approach is certainly thought provoking, but it is an unsupported caricature that can be
294 detrimental to conservation by discrediting all preservation efforts.

295 Lastly, the modest version suggests that the values underlying the work of experts involved in
296 drawing up the legislation should be critically analysed. As it happens, these values were not
297 openly discussed, and are not mentioned in legal texts, which calls for open discussions of the
298 relevance of the criteria used and of the legislation based on them. This approach also suggests
299 that, when designing conservation actions, botanical expertise should not be the only knowledge
300 involved, and botanical experts should encourage local stakeholders to share their local
301 knowledge and collectively discuss the reliability and relevance of various pieces of knowledge.
302 Lastly, this approach suggests that, as a preliminary to implementing action plans, the
303 legitimacy of managers should be collectively constructed. Such ideas are already taken into
304 account to some extent in many conservation action plans (in the case of the Rochières, they
305 were partly addressed through dedicated participatory processes), and the Foucauldian
306 framework is not the only one to champion them, but the modest version of the Foucauldian
307 approach still usefully stresses their importance.

308

309 **3. The triangle: sovereignty, discipline and governmentality**

310 Foucault distinguished three types of government: sovereignty, discipline and governmentality
311 (Foucault et al., 2007), and traced back their historical emergence: sovereignty allegedly is the
312 mode of government characterizing the medieval period. Discipline is said to have dominated
313 from the mid-sixteenth century to the late eighteenth century. Governmentality then allegedly
314 emerged. However, these three forms are not mutually exclusive. (Carpenter, 2020) talks about
315 “the triangle” to refer to contemporary settings in which sovereignty, discipline and
316 governmentality coexist (analysing whether this un-historic reading is faithful to Foucault falls
317 beyond our scope).

318 The three forms of governments are variously defined in Foucault’s texts, and the coherence
319 between various formulations is not always clear. Here, I will focus on the simplest definitions.

320 In these simple definitions, sovereignty is a mode of government based on regulations defining
321 what is permitted and what is prohibited, associating punishments with transgressed
322 prohibitions. Discipline distinguishes itself by the development of pervasive technologies of
323 surveillance and control monitoring people and their behaviour. Governmentality operates an
324 inversion with respect to discipline, by anchoring enforcement in the self-monitoring of agents
325 that are induced or incited to behave in a certain way. In the historical developments leading
326 from sovereignty to governmentality, through discipline, Foucault sees an increase in
327 “biopolitics”, defined as a mode of exercising power that operates on bodies and populations,
328 rather than on territories.

329 The transition from discipline to governmentality is pivotal in the contemporary applications of
330 the Foucauldian approach, since the latter form of government is supposed to be the most recent
331 one, and is presumably one that currently gains prominence. The hallmark of governmentality
332 is a complex interplay between power and freedom. The basic idea is that, whereas discipline
333 is based on relentless interventions to enforce regulation, governmentality consists in letting
334 people enjoy and express their freedom within a certain structure of incitation.

335 Knowledge unmistakably plays a key-role in the definition of the three types of government,
336 and most prominently in the case of discipline and governmentality. Anchored as it is in
337 monitoring and surveillance, discipline feeds knowledge by accumulating data on people and
338 their behaviour. Governmentality requires another type of knowledge, to guide interventions
339 aimed at “conducting conducts”. Economics is the form of knowledge that plays here the key
340 role in Foucault’s sketch: economics as an academic discipline emerged as governments shifted
341 from discipline to governmentality. According to Foucault, before 1750, the State’s actions
342 consisted in grafting and enforcing regulations such as price controls, limits on exports and
343 various prohibitions. This was discipline. Starting in 1754, a series of policy reforms inspired
344 by “physiocrat” economists were enacted. These reforms consisted in limiting State

345 interventions in some areas, such as the determination of grain price, based on the theory held
346 by physiocrat economists, according to which letting people pursue their own individual
347 interests would lead to a better state of equilibrium than the one that could have been achieved
348 by State regulation. This was the emergence of governmentality: a regime in which a certain
349 kind of knowledge (here, physiocrat economics), endowed with power, pilots a policy by
350 granting people some well-chosen liberties.

351 Here, I will leave aside the question of whether Foucault's description is historically accurate.
352 I will focus on what I believe to be the most important question from the point of view of
353 conservation biologists. This question is whether the theory of sovereignty, discipline and
354 governmentality can bear lessons to improve conservation theories and/or practices or raise
355 awareness about the power that conservation projects might unduly (and mostly unwittingly)
356 exert.

357 Foucault rarely, if at all, explicitly articulates lessons from his historical analyses. But the reader
358 cannot resist reading these historical analyses as bearing the emancipatory lessons of a critique
359 of the various forms of government. This emancipatory unsaid is even indispensable if these
360 analyses are to make sense in Foucault's own vision of the intellectual as an activist.
361 Accordingly, Foucault's writings on governmentality have been mainly interpreted as a critique
362 of neoliberalism (Brown, 2007). However, these texts are so elusive that they have also been
363 interpreted by Marxist analysts as a defence of neoliberalism (Lagasnerie, 2012).

364 There is, therefore, a need to come back to a basic question: what is the point of these analyses
365 of sovereignty, discipline and governmentality? There are two interpretative options.

366 The first interpretation claims that Foucault's study is purely descriptive. In this interpretation,
367 which is encouraged by Foucault's own reluctance to draw explicit lessons from his analyses,
368 Foucault's historical explorations are devoid of any normative or judgmental dimensions. This
369 interpretation has, however, three major drawbacks. First, it is at odds with Foucault's own

370 understanding of his role as an intellectual as an activist. Second, in this reading Foucault sees
371 himself as a positivist, allegedly producing purely descriptive claims—a stance whose very
372 plausibility is now largely considered doubtful, thanks to (Putnam, 2004)'s and (Williams,
373 1985)'s seminal analyses showing how blurred the positive/normative and fact/value
374 boundaries can be. Third, from the more focused point of view of the present article, in this
375 interpretation, there are no lessons to be learnt by conservation biologists.

376 The second interpretation, which is more in line with Foucault's understanding of his role, and
377 more promising from the point of view of emancipatory projects, holds that Foucault's
378 historical analyses are, at least in part, critical in nature. But this interpretation raises the
379 question: what is supposed to be wrong with governmentality, and even with discipline? If a
380 regulation is good, right or legitimate, why should we consider that its enforcement (which
381 characterizes discipline) should be wrong? Similarly, if we have good, right or legitimate
382 objectives, why should we deem that inciting, inducing, and making things easier or more
383 difficult (the hallmark of governmentality) should be a bad thing? Discipline and
384 governmentality are a bad thing only if the regulations and objectives which they are
385 respectively based on are illegitimate, bad or wrong. Because Foucault does not even discuss
386 the normative basis of the regulations or objectives associated with discipline and
387 governmentality, his arguments are hence incomplete, if limited to the said. They call for the
388 addition of an unsaid. A prominent candidate assumption to supplement the Foucauldian said
389 is the idea that collective regulations and objectives are *always* illegitimate. At least adding this
390 unsaid to the said allows to make sense of an otherwise incomplete reasoning.

391 Instead of analysing the credentials of this unsaid in general, I will focus on its relevance to
392 conservation. In this context, clearly there is a fundamental clash between the Foucauldian
393 unsaid and the basic assumptions of conservation methods and practices. The Foucauldian
394 unsaid holds that all regulations and incentives are necessarily a bad thing, imposed by powerful

395 actors or forces over oppressed people. By contrast, conservation science and practices assume
396 that regulations and incentives can reflect the moral justifiability or goodness of conservation,
397 and can be collectively constructed as legitimate or good. Indeed, since its inception,
398 conservation biology has always been openly presented as based on ethical premises (Soulé,
399 1985). The precise nature of this normative basis has been amply discussed (Justus et al., 2009),
400 with debates mainly opposing authors linking conservation biology with the intrinsic value of
401 nature or natural entities, and authors emphasizing its instrumental values (Fisher et al., 2009).
402 These debates are still active among conservation professionals (Sandbrook et al., 2011), and
403 advocating the value of conservation is seen by many conservation biologists as a prominent
404 task for themselves to endorse, on a par with activists (Bennett & Dearden, 2014). The
405 background of all these debates is an unanimous acknowledgement that conservation biology
406 is based on a fundamental normative stance, according to which some things are right, good or
407 legitimate while other are not, and accordingly regulations and incentives in line with
408 conservation's normative basis are themselves right or good or legitimate.

409 Despite this basic clash between the Foucauldian unsaid and premises underlying conservation
410 biology, I argue that Foucault's work can be useful for conservation by highlighting
411 mechanisms through which conservation actions can (perhaps unwittingly) end up
412 surreptitiously imposing unchecked values and objectives onto people. More specifically, the
413 role of freedom in governmentality, as Foucault sees it, contains an interesting idea for
414 conservation purposes. This idea is that sometimes people can be manipulated by powerful
415 actors that give them some superficial freedom but organise things so that, by enjoying these
416 superficial liberties, people unwittingly foster powerful actors' unchecked objectives. Foucault
417 (2007: 49) articulates this point by claiming that "freedom is a technology of power." This
418 phrasing is deeply ambiguous. Literally, it expresses the idea that freedom is always an illusion,
419 which is not supported by his argument. The more modest and useful lesson from Foucault's

420 analysis is that there exist situations in which powerful actors or systems grant certain liberties
421 to people to better manipulate them.

422 Like we did at the end of the former section, let us now examine how the formal, provocative
423 and modest versions of the Foucauldian approach to government suggest to analyse our simple
424 Rochières case study. The formal version would point that, because conserving *Ophioglossum*
425 *vulgatum* is legally mandated, its management in the Rochières area illustrates a disciplinary
426 mechanism. By contrast, the participatory setting through which management actions were
427 designed would be a governmentality scheme aimed at conducting the conduct of various
428 actors, including managers and local stakeholders. As usual with the formal version, such
429 reformulations are not meant to carry any normative meaning, and they cannot be used to draw
430 any practical recommendation. By contrast, the provocative version would see the disciplinary
431 mandate to preserve populations of *Ophioglossum vulgatum* as an oppression, and the
432 governmentality scheme as a manipulation of both managers and stakeholders. Lastly, the
433 modest version would encourage critically assessing the legitimacy of the legislation, by
434 inquiring into the criteria used to enlist this or that species. It would also suggest critically
435 analysing the credentials of the participatory proceedings, in particular by inquiring whether
436 some actors might have been marginalized. In this dynamics, a modestly Foucauldian
437 conservation biologist could notice that the manager's actions to preserve *Ophioglossum*
438 *vulgatum* in this site are funded through an offsetting mechanism thanks to which Suez, a private
439 business, was granted a derogation to the legislation on protected species for a development
440 project nearby (when offsetting mechanisms underlie conservation actions, as witnessed in this
441 case study, this basic information is not always clearly displayed, and sometimes experts do not
442 know until the end of their mission that their work took place as part of an offsetting
443 mechanism). Suez hence offers opportunities to implement conservation actions. However,
444 these opportunities might give the manager the false impression that he contributes to

445 conserving biodiversity, while in fact his contribution might merely be used by Suez to
446 greenwash its impacts on biodiversity. The modest Foucauldian approach suggests empirically
447 inquiring whether this really is the case (which falls beyond our scope here).

448

449 **4. Subject formation**

450 Another major idea in the Foucauldian corpus is that subjects are created through the exercise
451 of the various forms of government (formulations alluding to similar ideas date back at least to
452 (Foucault, 1966), which by far predates analyses of power/knowledge). The word “subject”, as
453 used in this context, has three different meanings, with which Foucauldian texts arguably play.
454 According to Foucault (1983, 2012) himself, being a subject either means being “subject to
455 someone else by control and dependence”, or means being “tied to [one’s] own identity by a
456 conscience and self-knowledge”. In addition, “subject” is also a synonym of the “topic” or
457 “object” of a science (Courtine, 1990). Foucault’s texts use the term with all three meanings,
458 alternatively or simultaneously, without clarification. This ambiguity conveys the idea that,
459 when people see themselves as subjects (self-conscious), they are in fact subject to others,
460 owing to the fact that they belong to the subject of scientific knowledge. This ambiguity is
461 problematic because it makes it look as though knowledge growth in human sciences and any
462 evidence that people are increasingly self-conscious are both ipso facto evidence of an increased
463 subjection of the people concerned. Human sciences can undoubtedly be instrumentalized to
464 constraint people, and self-consciousness can parallel subjection. Such situations can be
465 documented empirically, but the ambiguous conflation of the corresponding three meanings of
466 the term “subject” cannot be considered an empirical demonstration. I argue that the
467 Foucauldian approach to subject formation can be useful if this ambiguity is removed.
468 As we have seen, as opposed to sovereignty, discipline and governmentality function through
469 the free participation of the subject. But this freedom is based on a relation of self to self that is

470 shaped by patterns of knowledge, practices and technologies that the subject “finds in his
471 culture and which are proposed, suggested and imposed on him by his culture, his society and
472 his social group” (Foucault 1983, 213). According to Foucault, discipline and social sciences
473 have an intimate relation, because social sciences create subjects by making them the subject
474 of their scientific inquiry, and these subjects can then be subdued to disciplinary practices.
475 Governmentality involves a new mode of subject formation, through which people are led to
476 observe, judge and correct their own behaviour.

477 These claims are highly ambiguous. Just like analyses of modes of government, they can be
478 understood in both purely descriptive or critical terms. However, just like the descriptive
479 interpretation of Foucauldian analyses of modes of government, their descriptive interpretation
480 is barely tenable, and drastically undermines the promises offered by the analyses. Indeed, recall
481 that such a descriptive interpretation presupposes an implausible value neutrality, is at odds
482 with Foucault’s own understanding of his role as an intellectual as an activist, and would in any
483 case be useless of conservation biologists because it would not bear any lesson for them. By
484 contrast, if one supplements the Foucauldian said with the unsaid premise according to which
485 subject formation, in both the disciplinary and the governmentality modes, is necessarily bad,
486 wrong or illegitimate things, then his argument appears to fulfil its emancipatory promises
487 However, it is far from self-evident that this premise should be endorsed—at the very least,
488 something is clearly missing: a logic to distinguish practices of subject formation that deserve
489 to be denounced, from practices of subject formation that can be normatively supported—or, to
490 use Foucault’s own words, a logic to distinguish subject formation from “new forms of
491 subjectivity” that philosophers should promote (Foucault 1983, 2016). (Carpenter, 2020)’s
492 presentation of Foucault’s analyses provides a candidate logic for that purpose, when she writes
493 “subjects have agency—the freedom to act—but not autonomy—the freedom to set one’s own
494 laws.” However, although (Carpenter, 2020) presents this as a summary of Foucault’s thought,

495 Foucault doesn't explicitly articulate such a normative stance anywhere. At most, when he
496 states that subject formation is rooted in standards that are "proposed, suggested and imposed"
497 to the subject, he seems to presuppose a normative vision according to which the subject should
498 be the source of his own standards. However, because he never explicitly endorsed this stance,
499 leaving his texts in a normative/descriptive ambiguity, a fortiori he never clarified this
500 normative vision and how it should be applied.

501 If we admit, with the bulk of the conservation literature, that conservation is morally justified,
502 we cannot see it as self-evident that leading people to align with conservation goals is bad,
503 wrong or illegitimate. Granted, there might be a normative conflict between, on the one hand,
504 the value that lies in letting people decide of their own objectives, and, on the other hand, the
505 effort to lead them to endorse conservation goals. Drawing the line between practices promoting
506 conservation that are acceptable and those that unduly impair people's ability to form their own
507 objectives is the topic of reflections on the legitimacy of conservation action (Meinard, 2017),
508 an explicitly normative endeavour. The critical discourse on subject formation is incomplete
509 because it lacks such a clear distinction of what is legitimate and what is not.

510 More generally, beyond conservation, any educational practice typically involves "subject
511 formation", at two levels. First, education explicitly involves the promotions of values, such as
512 the value for recipients to have access to information, to think for themselves, to be able to
513 make their own mind on various issues, among others. Second, education implicitly promotes
514 values, enshrined in "thick concepts" (Williams, 1986), which impregnate it. Education cannot,
515 however, be considered to be entirely manipulative just because it involves the promotion of
516 values. Education rather unavoidably involves critical reflections on the values that can
517 admissibly be promoted, why, and how.

518 Coming back to conservation, the ambiguity in Foucault's reasoning is that it bears lessons only
519 in cases in which one can demonstrate that subject formation either imposes unjustifiable values

520 or prevents people from choosing their own values. But Foucauldian analyses typically skip
521 this questioning. As a consequence, they are either devoid of any implication, or they have to
522 assume that enticing, suggesting, and, *in fine*, even explaining are always, necessarily bad,
523 illegitimate, things—a radically libertarian stance, which is itself a normative stance, never
524 explicitly endorsed by Foucault.

525 Most conservation projects involve attempts at enticing and/or educating some people that are
526 considered to be unaware of and/or indifferent to environmental damages they cause or let
527 happen. If one endorses the above radical libertarian stance, and accordingly admits that
528 enticing and educating are necessarily bad, wrong or illegitimate things, then all the
529 conservation project that involve them are necessarily bad, wrong or illegitimate. According to
530 this view, conservation as a whole must be rejected. The underlying stance obviously clashes
531 with normative ideas which have been developed and discussed in the conservation literature
532 for decades. At the very least this normative stance and its possible implications for
533 conservation should be discussed.

534 That being said, an interesting and important idea for conservation can be found behind the
535 above untenable reasoning. One cannot embark on educating people without starting by making
536 sure that the people one claims to educate are not more knowledgeable than one is. This is an
537 important question that conservation biologists and practitioners should ask themselves.
538 Similarly, enticing people to do some things might have unintended consequences, such as
539 turning people away from contributing positively to the environment. Conservation biologists
540 have to pay due attention to such possibilities. This is all the more important given that, as
541 Western conservationists, at least some conservation biologists can have the tendency to think
542 of people as agents interested in economic gains, always adapting their conduct based on cost-
543 benefit, individual-scale analyses. Empirical studies of attempts at subject formation in other
544 domains suggest that attempts based on such assumptions often fail. For example, (Lazar, 2004)

545 shows that, although microcredit schemes attempt to turn beneficiaries into market-savvy
546 entrepreneurs, their rare successes appear to “rely upon the women’s existing networks of
547 family and friends, and associated cultural understandings and obligations” (Lazar 2004, 306).
548 Hence there are important lessons that can be drawn from Foucault’s analyses of subject
549 formation, once ambiguities and overstatements are removed, and once the Foucauldian said is
550 supplemented with a reflectively clarified vision of education and its normative foundation. But
551 there is a gap between saying that conservation biologists should be careful not to discard local
552 knowledge and not to disturb virtuous practices, on one hand, and saying that incentives and
553 education are always necessarily perverse, on the other hand. Contemporary empirical analyses
554 of subject formation, inspired by Foucault, such as (Agrawal, 2005), illustrate empowering
555 processes of subject formation that, far from being manipulative, cannot but be seen as positive.
556 Phrasing the presentation of such a positive process in the terms of “governmentality” and
557 “subject formation”, with associated critical connotation (such as, for example, the idea that
558 subjects are “subjects to someone else by control and dependence”, as Foucault puts it), is
559 bound to be confusing.

560 To illustrate the outcome of this discussion on subject formation in our Rochières case study,
561 the formal Foucauldian approach would claim that the manager, technicians and local
562 stakeholders supportive of the project were moulded as subjects as they appropriated the
563 objective to protect *Ophioglossum vulgatum*. The provocative version would construe this
564 internalization as the hallmark of a manipulation. The modest version would rather see it as the
565 result of successful education to conservation values, but would emphasize the need to make
566 sure that recipients’ own values were duly respected. Here again, the formal version appears
567 empty, the provocative version grotesque and the modest version useful, but barely original.

568

569 **5. Conclusions**

570 Analyses of power relations underlying conservation projects or intertwined with them are of
571 foremost importance for conservation biologists who strive to understand the various aspects
572 of their interventions. Discourses and associated practices can, in some cases, play a key role
573 in sustaining, reinforcing, and making these power relations invisible. Because Foucault's
574 philosophy is, to a great extent, devoted to analysing relations between power and scientific
575 discourses, it is a major source to think this issue through.

576 However, as opposed to what authors like (Carpenter, 2020) claim, Foucauldian texts cannot
577 be considered to be a "toolbox" that can directly apply to the analysis of conservation thought
578 and interventions. This is because Foucault's texts are elliptical. Foucault is characteristically
579 cautious to avoid certain questions, such as the clarification of his normative stance, and the
580 precise lessons that should be drawn from his reasoning. These gaps in texts play key rhetorical
581 roles: they both allow developing various interpretations of the texts by supplementing them
582 with unsaid assumptions, and they conveniently allow rebutting criticisms. For example,
583 Foucault's texts are so ambiguous that both critics and advocates of neoliberalism can find
584 arguments that suit them in his texts, but if one finds a flaw in a Foucauldian critique or apology
585 of neoliberalism, a Foucauldian advocate will always be in a position to claim that this flaw
586 was no part of the original text.

587 Such ambiguities deeply undermine attempts at developing concrete applications of the
588 Foucauldian approach. This article was an attempt at clarifying some of these ambiguities, in
589 line with particularly powerful applications such as (Fairhead & Leach, 1996). In this attempt,
590 I mainly argued that three elements are pivotal to relevant applications of the Foucauldian
591 approach: first, clearly distinguishing knowledge and truth from discourses; second, clarifying
592 normative assumptions underlying analyses of power and, finally, striving to clarify unsaid
593 assumptions.

594 If Foucault's philosophy is interpreted in this clarification effort, it contains powerful, thought-
595 provoking clues to analysing power and discourses in conservation contexts and beyond. Key
596 lessons from such a clarified Foucauldian rationale are, among other things, the need to identify
597 hidden value-judgements and diffuse power relations, to pay due attention to the complex
598 interplay between discourses and practices, and to be wary of all-too easy *cui bono* analyses.
599 Using a very simple case study, I have illustrated promises and pitfalls of various versions of
600 the Foucauldian approach. No doubt that more complex situations call for subtler analyses, in
601 which the modest Foucauldian approach might have much more added-value. Other aspects of
602 the Foucauldian corpus, such as for example his analysis of the notion of "milieu", open
603 avenues for analyses of other ecological disciplines, which could usefully complement the
604 conclusions reached in the present article (on this issue see, e.g., Taylan (2014), Devictor (2018)
605 and Devictor & Bensaude-Vincent (2016)). Similarly, Foucault's later works, which take their
606 distances with the concepts explored in this article (e.g., Foucault 1994), can cast a retrospective
607 light on these concepts. Future works exploring such issues are needed to strengthen our
608 understanding of possible contributions of the Foucauldian approach to conservation
609 knowledge and practice.

610

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