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The Art of Abduction. By IGOR DOUVEN. (Cambridge, MA: The MIT Press, 2022. Pp. xx + 349. Price \$50.00.)

One of the many notable virtues of Igor Douven's *The Art of Abduction* is that it is open access. Since a well-written chapter-by-chapter overview of the book is only a couple of clicks away (pp. 25-27), what I find to be the book's major 'big-picture' flaw is going to be the *main* focus of this review; but the main, not the sole. After all, as a fellow explanationist, I do not want to treat *The Art of Abduction* as the Athenians treated the generals who won them a stunning victory in the Battle of Arginusae, putting them on trial for failing to recover the dead from the sea (it gets worse but I stop here). *The Art of Abduction* wins, I believe, a stunning victory for explanationism. Before putting it on trial, let me at least acknowledge its major achievement.

One can divide the book into two projects. A negative project in which Douven argues against 'Bayesian imperialism', the view that Bayesianism is the sole provider of the framework of rationality for all theoretical and practical purposes and any deviation from it is irrational. For many advocates of Bayesian imperialism, abduction is probably the most notable example of non-Bayesian and hence irrational reasoning. I think Douven's arguments against Bayesian imperialism are formidable. He convincingly argues that the two major arguments employed by proponents of Bayesian imperialism against abduction, the dynamic Dutch book argument and the argument for inaccuracy minimization, hold water only if one adopts a very narrow conception of rationality, one that neither explanationists nor Bayesians have to (or even should) adhere to. Moreover, using multiple computer simulations, Douven provides empirical evidence that in some cases, non-Bayesian ways of updating beliefs are superior to Bayes' rule in terms of speed and accuracy of convergence to the truth. Douven's case against Bayesian imperialism, I believe, is the greatest achievement of the book. If you are an advocate of Bayesian imperialism, you shall find serious challenges in *The Art of Abduction* for your position. I am confident that much ink will be spilled to address these challenges and some might even leave the Bayesian imperialist camp altogether.

But what does the book have to offer if you are already an explanationist? In this case, you probably look for the positive project of the book which consists in Douven's explication of abduction as a fundamental form of reasoning. It is this project – or different aspects of it – that comes to one's mind when they read the first 'main goal' that Douven hopes to achieve in this book, namely, '*To clarify what abduction is and to explain why we should care about it*' (p. 25, my emphasis), and when they read the title of *The Art of Abduction*.

Now, what is abduction? It is 'a mode of inference that makes *explanatory considerations* relevant to what we are licensed to believe' (p. 14, my emphasis). Does this mode of inference have some mathematical formulation that can be cast in the language of probability theory? It might have or it might not. Here, 'for dialectical purposes [against Bayesian Imperialism]' (p. 15), Douven *pretends* that it has. If abduction has mathematical formulation, is this formulation unique? Very probably abduction has multiple formulations each of which is suitable for a particular context. In general, Douven thinks that 'it would be wrong to think of abduction as a

single specific rule of inference; “abduction” [...] is to be conceived as a blanket term denoting a broad idea *to be filled in differently in different contexts*’ (p. 20, my emphasis).

In this account, two major components of abduction are explanatory considerations and context-sensitivity. I think the major flaw of the book is absence of substantial discussion about these components. With respect to explanatory considerations, arguably the most central component of abduction, *The Art of Abduction* does not really go anywhere beyond, say, Lipton’s *Inference to the Best Explanation* (London: Routledge, 2004). And in both books, discussions about explanatory considerations, namely, the theoretical virtues that make explanations good or, as Lipton puts it, ‘lovely’, are very minimal, no more than a couple of pages (Lipton, pp. 122–123; Douven, pp. 54–55). In total, ‘explanatory considerations’ and ‘explanatory factors’ appear around seventy times in *The Art of Abduction* but Douven does not go into any detail about them even when it seems quite necessary. For instance, Douven extensively discusses (and beautifully tests) a particular formulation of abduction (EXPL) originally proposed by van Fraassen. EXPL consists of three steps: (i) updating our degrees of beliefs in hypotheses via Bayes’ rule, (ii) adding a bonus to the best-explanation hypothesis, and (iii) renormalizing. Using different computer simulations, Douven shows that sometimes EXPL is better than Bayes’ rule. He does not, however, discuss what determines which hypothesis is the best explanation that should get a bonus at the second step of EXPL. Is the bonus added because the hypothesis is simpler, more unifying, better consistent with well-established science, or what? Without having such details – and I really do not think that these are ‘details’ *per se* – it is hard to see in what sense EXPL is *abduction*. The negative project still stands because clearly EXPL is not Bayes’ rule. But to positively show that EXPL is indeed abduction, I think one cannot avoid a substantial discussion about theoretical virtues of the tested hypotheses. Douven, however, avoids this discussion.

Now, let’s consider the title. When I was reading the book, A non-philosopher colleague walked into my office. She looked at the cover. It depicts a sand beach on which some footprints are extended towards the sea and disappear. Nobody is in the picture. Add to this ‘The Art of Abduction’ and no wonder she looked at me with a suspicious smile and asked ‘Mousa, what are you up to?’ (She also showed me a poster of ‘Deadly Excursion: Kidnapped from the Beach’ on imdb.com and I should say the similarity is quite amusing.) In all seriousness, this is a valid question: what is someone up to when they read a book about the art of x (e.g., the art of war, happiness, thinking clearly, seduction, or abduction)? Presumably, they are curious to know how to successfully implement or achieve x , how to avoid going astray x -wise, how to make a fix if things go wrong x -wise, and so on. As mentioned before, abduction’s context-sensitivity is another major component of Douven’s account. Unapologetically, he embraces an anti-universalist approach to abduction. Abduction (and non-deductive reasoning in general) is extremely context-sensitive. In some contexts, abduction doesn’t work and Bayes’ rule is the way to go, in others it does. But again, Douven does not provide much positive information about proper ways to make judgments about contexts and the appropriate type(s) of reasoning associated with them. This can be quite problematic for his own implementation of abductive reasoning. For example, Chapter 8 offers an abductive response to skepticism regarding the external world. Since Douven advocates for an extreme form of contextualism, one can simply ask how do we know that abduction (or the specific formulation of abduction used by Douven) works in this particular context? Granted, Douven uses some quite minimal assumptions to make this abductive inference, assumptions that skeptics might not find questionable. The skeptic’s

concession is not enough to make this context suitable for abduction though. First, a more demanding skeptic might cast doubts on the suitability of Douven's adopted form of reasoning for this context. Second, if the point of Douven's abductive argument is discovering the truth about the existence of an external world – and I assume it is – the skeptic's subjective demands can hardly have anything to do with it. Again, the negative project stands because Douven has already argued that in some contexts, when we already know the truth – e.g., we already know that a coin is not fair – EXPL works better than Bayes' rule. But if one is interested in learning the art of abduction, including when and where to use abduction, *The Art of Abduction* does not offer much.

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