

Defining the Intuition Pump

Daniel Dennett, author of “Intuition Pumps and Other Tools for Thinking”, often begins talks pertaining to the book with a discussion of the “Flynn effect”. As per James R. Flynn’s findings, Dennett tells his audience that “IQ is up, worldwide” and that speaking holistically, this is the result of the evolutionary “bubbling up” of intelligence. This is a concept that he devotes many pages to in the book, and like the other specific questions he addresses (free will, consciousness) these clever concepts help the reader to wrestle with Dennett’s unique coinage, the “intuition pump”. He explains that the intuition pump itself is hardly unique and like words and diagrams, a pump is only a subset of our “thinking tools”. Dennett consistently mentions that thinking is an “exploratory informal process”¹ and by layering on these various structures for thinking, we can begin to enforce some consistency to facilitate a meta-level discussion on the subject. Dennett’s self-described format for the book is a “tapas” sampling of different pumps, which does not *explicitly* lend itself to pin pointing exactly what a pump is/is useful for. Despite this, a careful read through could equip the reader with enough information to arm himself with and most importantly, to construct functioning pumps.

Dennett dedicates the first half of the book to the thinking tools that are the most essential, in the chapters: “What are Intuition Pumps?”, “A Dozen General Thinking Tools”, and “Tools for Thinking About Meaning or Content”. Because these chapters discuss more tools than specific pumps, this half serves to outline where pumps fit in within the more general category of tools. Taken from his talk at Google, he lists the following under the umbrella of thinking tools, “words, numbers, diagrams, maps, methods, and intuition pumps”

¹ Talks At Google. "Daniel Dennett: Intuition Pumps and Other Tools for Thinking." YouTube. YouTube, 22 May 2013. Web. 08 Oct. 2014.

and from his book he lists, “examples, staging, labels and metaphors”² Obviously, some tools compound, like *numbers* being included into a cartographical *map*, but what delineates pumps from the rest of these tools is that they (are supposed to), “provoke a heartfelt, table-thumping intuition... about whatever thesis is being defended.”³ Dennett clarifies by giving examples, “they are like the philosopher’s version of Aesop’s fables... you probably [have been] exposed to such classics as Plato’s cave... Descartes’ evil demon... Hobbes’s state of nature.”⁴ All this is to say that intuition pumps are complex compound tools designed to elicit thinking; most often in a situational, or story type format. Dennett explains that they can be, “attention-holders, [ignition] for fixed points, persuaders and discoverers.” Often, pumps are all four of these things, combining multiple tools amounting in a “thought experiment” with an appropriate fictional backdrop to prompt a certain reactionary line of thought.

Dennett presents a few chapters exclusively on traits representative of good intuition pumps in the first half of the book (which is what we’ll be focusing on).⁵ The most easily explainable traits are given in the first chapter (using my some of my own phrases to pinpoint them). Good pumps are multi-routed, version-transcendent, cogent, logical, and communicative. Dennett makes clear that first and foremost, a pump should be accessible to entry level practitioners of the subject. He contrasts this fundamental communicability from

² Dennett, Daniel. *Intuition Pumps and Other Tools for Thinking*. New York: W.W. Norton &, 2013. Print. pg. 4

³ Dennett, 6

⁴ *Ibid*

⁵ Namely, the chapters are: “What is an Intuition Pump?”, “Using *Reductio Ad Absurdum*”, “Manifest Image and Scientific Image”, “The Personal/Sub-Personal Distinction”, “The Intentional Stance”, “Wonder Tissue”, “The Seven Secrets of Computer Power Revealed”, “Virtual Machines”, “Automating the Elevator”, “Competence Without Comprehension”, “The Self As The Center of Narrative Gravity”, “Heterophenomenology”, “Philosophy as Naive Auto-Anthropology”. It is highly possible that I have left some out, however these clearly explain characteristics of good pumps without integration by Dennett *into another* pump. He repeats the traits frequently across all chapters so a reader would easily be able to pick them up at a glance.

ivory tower academia, “[things written] for one’s advanced graduate study... [are] typically all but unreadable - and hence largely unread.”⁶ Staging is the concept that covers, quite literally, the intellectual and physical setting that surrounds the pump. Dennett quotes Hofstadter on this point, “consider the intuition pump to be a tool with many settings, and ‘turn all the knobs’ to see if the same intuitions still get pumped when you consider variations.”⁷ More simply, the pump’s creator must facilitate multiple paths to the intended thought. If this is done cogently and with close attention to proper logic, any minor tweak to the staging will still lead to the intended thought.

In the second section, “Tools for Thinking about Meaning or Content”, Dennett addresses more specifics of staging, showing the reader how pumps differ from more literary devices. His chapter on the logical tool *Reductio Ad Absurdum* details exactly this point, explaining how to formulate staging that caters to individual understanding, often sub-intellectual (using *reductio*), while keeping logical, cogent form (even in a pump). A trait of good staging always involves recognition of the “intentional stance”. Yet another coinage by Dennett, this method of psychological framing puts any entity’s “behavior... by treating it as if it were a rational agent.”⁸ What this does in a pump is “draws [away] attention... from [the entity’s] standard connotations in the interests of exploiting... their role in practical reasoning.”⁹ Adopting the intentional stance is essential to developing the entities without agency in a pump. In a final section, Dennett speaks on the decentralization of a pump’s parts

⁶ Dennett, 12

⁷ Dennett, 7

⁸ Dennett, 76

⁹ *Ibid*

(even its entities) for it to be version-transcendent. These sub-personal parts must be intelligent, but separate, similar to the notion of “homunculi”.

Transitioning into “An Interlude About Computers”, prior to Dennett launching into the second half of his book concerning subject specific pumps, he addresses “wonder tissue”, which is really the chief avoidance of intuition pumps. To elucidate his point, he quotes early 1900’s geneticist William Bateson, “the supposition that particles of chromatin, indistinguishable from each other and indeed almost homogenous under any known test, can by their material nature confer all the properties of life surpasses the range of even the most convinced materialism.”¹⁰ Dennett writes, “He just could not imagine DNA.” This is to say that when the scope of a problem *seems* so gigantically large or finely acute that possibilities beyond it appear unexplainable, there is a tendency to claim “miracle”! Dennett refers to this self-serving supernatural glue as wonder tissue, or “not a way of solving the problem, but a way of giving up.”¹¹ In many ways, good pumps are designed to push us past these self-constructed, Bateson-esque walls.

In the section on computers, Dennett rehashes three essential traits of good pumps concerning the entities within them: variability, keeping with “separation of concerns” and automation. These traits are essential for a successful “twisting of the knobs”. The discussion of decentralization gets at the same “separation of concerns” as the previous section, but two additional traits are introduced side by side and are fairly simple: an entity within the pump should be a) replaceable within reason and b) action-independent. It is essential that the purpose of the entity not be determined by any physical attribute or specific action (again,

¹⁰ Dennett, 100

¹¹ Dennett, 101

within reason). Let us say, Jimmy the Guard, an entity in my pump, commits a senseless act of violence towards his prisoners. So, Jimmy is tall, blond and enjoys shooting tear gas into the prison cafeteria for no reason. If we were to manipulate this and say, Sarah the small, redheaded Zookeeper likes to throw bananas at monkeys while they are sleeping, the pump should still be actively achieving its “goal” provocation of thought. Creating action-independent entities gives them a sort of autonomous flexibility, which works well when manipulating the pump.

In the final section of the book, “What Is It Like to Be A Philosopher”, Dennett gives insight about his field and how pumps have effected his views on the “purposiveness” of studying philosophy. The chapter “A Faustian Bargain” is sufficient to close out the discussion of pump traits. He explains a situation where if offered a gift of these two options “you write a book that stays on the required reading lists for years to come” or “you solve the major philosophical problem of your choice... you get a footnote in history”¹², most scientists would choose the latter and his colleagues the former. He seems peeved by his colleagues (the last of several times in the book), but attributes this division in answers to the difference between science and art: “scientific discoveries belong to no one in particular”¹³, while Shakespeare’s plays belong to him. While Dennett half-heartedly validates his colleagues here, by the end of the book he hints that pumps are never quite owned, for example, that Plato’s Republic is not the same as his “cave”. So, it is also the author’s responsibility to construct pumps that are a unique brand of “open-source”, while paying close attention to the described traits that make good pumps, legendary. ¹⁴

¹² Dennett, 411

¹³ Dennett, 412

¹⁴ For full bibliography, see “Reading List”