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Writing 2

### Heuristics Essay

When patients are accepted into a hospital, their role is simple (if somewhat uncomfortable). They wait in the waiting room, then they wait in the doctor's office for the doctor to enter, and then they dish out every detail of every symptom they can think of in order to help the doctor diagnose them. But how exactly do these seemingly random facts and questions form a diagnosis? What exactly is the role that the doctor plays in this process? What goes on inside the mind of a doctor might come as somewhat of a surprise to many people. Instead of listening to every detail and symptom the patient has, many doctors pick and choose the data that they form a diagnosis from. This habit of selective listening is derived from an age-old method of self-teaching called heuristics. This habit is also highly controversial within the medical field, and many papers and articles have been written both supporting and opposing it. In *The New Yorker* article "What's the Trouble?" Jerome Groopman identifies the role of heuristics in medicine and discusses the problems associated with it, through which he hopes to encourage the creation of agreed-upon heuristics to reduce the frequency of misdiagnoses in hospitals. The article is a warning to those in the medical field, one that cautions against irresponsible or misleading forms of heuristics.

Although the article goes a long way into explaining the problems caused by heuristics, it would be better equipped for persuasion and would appear less

pessimistic if it had examples of when heuristics was the cause an efficient diagnosis in the hospital. An argument cannot be written from just one side—both the positive affects of correctly used heuristics and the negative affects of those incorrectly used must be discussed if the argument is to be a strong one. Because Groopman was missing the dual elements in the argument, he could not properly develop a solution that decreases the cons as well as increases the benefits of heuristics.

To fully understand the problem that heuristics can cause in diagnosing, one must comprehend the theory of heuristics. Groopman provides an inadequate description of basic heuristics before entering his discussion of heuristics in the hospital setting. The concept of heuristics is not simple, and some basic definitions and history could go a long way to easing the reader into the subject. Heuristics have been used since the dawn of man, and have likely been used by many intelligent animals. Research has shown that decision strategies found in the wild are the products of “selective pressure to find solutions that are ever more refined and efficient” (Marsh p. 49). A heuristic technique involves or serves as an aid to learning, discovering, or problem-solving by experimental and especially trial-and-error methods. An example of an informal heuristic rule is “first come, first served”. In current U.S. medical practice, they help to complete a task in an orderly and timely fashion when otherwise the task would be uneconomical. Had Groopman explained this basic theory of heuristics first, the difficulty of developing a working heuristic process in the hospital would have been easier to grasp.

Where Groopman excels is explaining and giving entertaining examples of basic heuristics in the hospital and when they can have devastating consequences.

Doctors often rely on these “shortcuts and rules of thumb” to make diagnoses. These methods are usually self-taught, which is where one of the problems lies; the process of heuristics requires that mistakes be made in order to learn from them. These mistakes can cost lives, as Groopman points out in his article. Physicians work through their residencies, and begin to pick up their own little habits and biases for diagnosing in the second year of their residency (Pauker). Whether these habits are conservative or liberal, they apply to each doctor individually. These habits and methods can vary widely among doctors, which is a cause for concern. The methods are very often unreliable, as a doctor named Harrison Alter discovered while she was working at a hospital at a Navajo reservation (Groopman, 2). For three weeks, dozens of people came to the hospital suffering from a viral pneumonia. One day, a woman came in with symptoms that somewhat resembled those of the earlier patients. Alter diagnosed it as being in the early stages of the infection, and gave the patient to an intern. Shortly after, the intern rushed to Alter to tell her that the patient actually had aspirin toxicity—she had taken several dozen tablets. Aspirin toxicity is “drilled into doctors throughout [their] training”, but Alter somehow missed it (2). Because she was diagnosing the pneumonia so frequently prior to the case, she was predisposed to go with the same diagnosis and forgo the fact the symptoms did not match up properly. There are many cases like Alter’s, in which a doctor ignores some of the facts to go with the diagnosis she is more familiar or comfortable with. Groopman describes several other such examples, which constitute the negative effects of heuristics that is his argument.

However, one main element of the argument that Groopman decided to forgo was the positive affects that heuristics can have in the hospital. Although heuristics cause mistakes to be made in hospitals now and then, they allow for the modern fast-paced hospital to remain standing. If every doctor took the pains to spend as much time as he/she probably should with each patient, not every patient would be seen. There is simply not enough money or time to handle every patient individually with the amount of attention he should be getting. In one psychiatric ward, the pressures of time and deadlines resulted in the adoption of four main decision strategies: “first things first”, “use what works”, “work with what you’ve got”, and “weigh the consequences” (Murdach, 3). These strategies allowed the physicians on the ward to analyze what patients needed attention first, decide what techniques should be used in each interaction, and develop a plan to diagnose and see each patient on the ward in a timely manner. Had Groopman added a positive element to his essay, it would have been more evident that he was arguing for the correct use of heuristics instead of simply bashing the practice altogether.

To decrease the rate of misdiagnoses in the hospital, heuristic strategies must be developed and taught to younger physicians and residents. Although Groopman hints at this, he refrains from going into detail on exactly why it should be taught by mentors instead of self-taught. The trial-and-error stage of the heuristics process must be eliminated in order to decrease the problems caused by the process. But a main thread of heuristics is that good judgment comes from experience. How does one teach experience? Groopman argues that “the first step toward incorporating an awareness of heuristics and their liabilities into medical

practice is to recognize that how doctors think can affect their success as much as how much they know, or how much experience they have” (p.4). This is a good first step, but he does not elaborate on its significance or the manner in which a set of agreed-upon heuristics can begin to be constructed.

An argument must be sought the way a wave seeks the sand—there must be both push and pull. The push of Gropman’s argument is there in a number of places: he provides several examples warning people of the dangers of heuristics, he goes into detail on the ways in which these dangers could be avoided, and he urges the reader to consider the way a doctor thinks. The pull, however, is missing from the argument. The enticing benefits of correctly used heuristics have vanished. The exciting anecdotes of the article hook the reader, but they are left without a substantial meaning or message from the article. Gropman is missing this key balance in his argument, so he could not possibly discuss the future of heuristics, and a solution to its problems.

## References

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