

In-depth look at intuition

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Abstract This paper emphasizes the importance of intuition, which is apparently frequently given little attention. It appears that logic is equated with intelligence and is regarded as the most important aspect of thinking by many. The author here attempts to raise the status of intuition vis-à-vis logic or reasoning and in doing so he is presenting intuition from a different and perhaps unique perspective. The paper explains the importance of intuition though it may not be perfectly effective in bringing the desired outcomes, a state of affair which applies also to logic. Nevertheless, intuition plays an important part in our intellectual and creative endeavors, apparently aided by logic, which is explained in this paper.

Keywords: Intuition; reasoning; comprehension; thought; superior powers.

1 Introduction

It would be appropriate here to first state what logic is. Logic is the principle or method by which a truth or correct conclusion is arrived at – it is a deliberate process. ^[6,8,11]

Next, intuition. Intuition is the capability of knowing the truth with or without the aid of conscious reasoning – it is apparently an instinct, an internal feeling of certainty or sureness about the veracity, the truth or falseness of some proposition, a sixth sense as some may call it which is also capable of making predictions or forecasts, for example, the sense of impending danger, the sense about a person's character, etc. ^[3]

We have always taken pride in our ability to reason or use logic. We admire and call someone smart if he shows great capability in the use of reasoning or logic. Such a person may not really be as smart or as intelligent as he appears to be for logic or reason is apparently secondary to intuition, as this paper would show.

However, it should be noted that intuition itself is a very abstract concept, whose existence is apparently difficult to prove, and it is also apparently difficult to define it, though this paper would grapple head-on with this very difficult concept.

2 Relationship between intuition and logic

It is evident only humans and animals, the living beings of nature, have intuition, besides reasoning ability. Artificial, man-made contraptions, such as computers, may have reasoning ability (by just following the rules laid down by their human programmers, computers arrive at “conclusions”) but they evidently do not possess intuition.

Intuition is apparently the ability to arrive at an “idea” or “conclusion” without apparent reasoning, providing the “aha” moment, the immediate insight or realization out of nowhere, apparently due to the workings of the unconscious mind.

Reasoning is a conscious process, apparently the work of the conscious mind. How do we know whether a chain of reasoning is sound or valid? We know that a reasoning is sound apparently because our intuition is assured through the reasoning process that a statement is true. In other words, the reasoning process is an aid to the intuition, assuring the intuition that a statement is true, or, false (or even, undecidable as to whether it is true or false), in which case we (our intuition) would “feel certain” that the statement under consideration is true, or, false (or, undecidable as to whether it is true or false). It is of course possible to “feel certain” that a statement under consideration is true just through pure intuition, without recourse to the reasoning process. For example, simpler statements such as “ $1 + 1 = 2$ ”, “ $2 - 1 = 1$ ”, etc., that is, axioms (the word “axioms” has a few meanings, one of which is “statements which are evidently or obviously true without the need for proof, or, confirmation of their truth or validity through the reasoning process”), are “obviously true” (to the intuition) without any recourse to or need for the reasoning process. Apparently it is when the intuition is uncertain whether a statement is true or not that the reasoning process, plus possibly even experimentation to affirm the reasoning, is needed to assist it. It

should be noted that axioms, that is, assumptions or statements without proof (that is, statements which we assume to be obviously true without the need to prove their truthfulness) are essential for mathematical reasoning, for without axioms mathematical reasoning would not be able to proceed – these axioms are the premises for the mathematical reasoning, without which it would be impossible to carry out the mathematical reasoning. This appears to be a self-contradiction in mathematics, which is a science which strictly demands proofs or validations for any mathematical statements but is able to accept axioms (obviously true statements without the need for proof or validation – it should be noted here that this obviousness is subjective and also depends on the person’s level of intelligence and his knowledge and experiences) for mathematical deduction.

It is apparent that understanding, insight and knowledge are the result of intuition. Reasoning is apparently just an aid to the intuition, to help it understand something. It can thus be said that creativity and original ideas (the “aha” moments) are the result of intuition, aided by reasoning.

Hence, a mind that knows something intuitively without recourse to reasoning can be regarded as more superior than a mind that needs reasoning as an aid to know that thing. For example, an intelligent person may understand something without the need for explanation while a less intelligent person may need a detailed explanation to understand that thing and may have difficulty understanding even with the explanation. Apparently we are always aware that there would be people who could understand things more quickly than us and are cleverer or more intelligent than us; as per a well-known eastern saying about cleverness or intelligence “there is always a higher hill than our hill”.

Therefore, reasoning or logic, though important, is apparently over-rated and secondary. Intuition is apparently of paramount importance to thought though it may be imperfect as it does not always lead to the expected outcomes. However, brain-workers or intellectuals who swear by logic or logical deduction might disagree that intuition is more important than logic. As per the explanation in the above paragraph, the more intelligent person may understand some difficult concept without the need for explanation while a less intelligent person may need a detailed explanation to understand the concept. The important question here is how is this quick understanding without explanation achievable by the more intelligent person? The apparent reason for this is the stronger intuition of the more intelligent person, though some might define this great intelligence as a divine gift or a gift from God.

3 Weaknesses and role of logic vis-à-vis intuition

There are also some problems relating to logic. Some examples of these are presented in the following.

Firstly, logic could not always be relied on, for according to Godel’s incompleteness theorems ^[2,4,5,10,12,13] a proposition or statement might be true but not amenable to logical proof. This has shaken the strong foundations of mathematics and logic where solid principles and proofs have pride of place, which has apparently been of great concern to mathematicians such as the eminent mathematician David Hilbert.

Secondly, logical reasoning could end up in paradoxes ^[10], which casts aspersions on its efficacy, for example, Zeno’s paradoxes, the most famous of which is perhaps the “Achilles and the tortoise” paradox wherein the logic shows that Achilles would never be able to overtake the tortoise which was given a head-start in a race. Also, Russell’s paradox ^[7,10,12] had upset the great mathematician, logician and philosopher Gottlob Frege ^[12], who was a mathematics professor at the University of Jena, when it showed that his Basic Law V is false just when Volume 2 of his two-volume work *Grundgesetze der Arithmetik* was about to go to the press in 1903.

In the last resort when logic fails to deliver the correct results, intuition perhaps together with physical experiment becomes the only recourse.

It is apparent that intuition or hunch plays an important part in the brain worker’s occupation, for example, the scientist has a hunch or strong feeling (that is, intuitive feeling) about a physical phenomenon and invents a theory which explains it, a theory whose veracity he would attempt to affirm by physical experiment.

There is the possibility of extra-terrestrial beings, should they exist, being capable of knowing through pure intuition alone without any recourse to reasoning or logic, which could be considered a waste of time and effort, or some other superior powers such as telepathic powers. These extra-terrestrial beings could possibly possess both more superior physical and mental powers compared to human beings due possibly to the more superior make of their physical bodies and brains or more superior genetic make-up. Perhaps, to the religious, God is the Embodiment of such a being, being all-knowing and supreme.

We add here that the potential powers of the brain or mind appear limitless. Have there not been savants capable of mentally and speedily multiplying or dividing ten-digit numbers, extracting the square or cube roots of such large numbers, calculating the day and month of a date 50 years ago, and memorizing and recalling word-for-word the contents of a book or phone directory, as well as accurately predicting future events? All this indicates

there is the possibility of the mind gaining good insights through other means besides logical reasoning, for example, through telepathy, clairvoyance and intuition.

Though intuition is apparently paramount, logic should not be discounted – logic is still apparently the important assistant of intuition. In many fields of work, logic is demanded for gilt-edged certainty, for example, in mathematics ^[1-13] proofs or logical principles are always required to support theorems. Logic has apparently become an indispensable aspect of our culture wherein it is automatically associated with intelligence, whereas intuition does not seem to be so highly regarded. The position is such that if a person, for example, a mathematician, states that he is certain that a statement is true he would not be credible or believed unless he could provide the proof or logical principles to support the statement. However, as described above, by Godel's incompleteness theorems, the proof or logical principles which support the statement might not be obtainable if the statement were indeed true. This is a serious problem of logic.

There is however a draw-back with intuition despite its apparent primacy. Anyone, even a fool, could easily fake it by stating that his powerful intuition affirms the truth of a proposition. How then could we find out whether he is faking? The most direct way apparently is to request him to explain why he is certain that the said proposition is true wherein he would have to provide the logical principles which support the proposition, that is, provide the evidence or proof that the proposition is true. This would apparently make faking difficult if not impossible.

Hence, though reasoning or logic has some short-comings and is apparently subordinate to intuition, it has an important role in determining the veracity of a proposition.

4 Conclusions

Though intuition is apparently of primary importance to thought (although it may not be perfect and has some weakness), logic apparently plays an important supporting though secondary role. Without the aid of logic, the intuition could be lost. The part played by logic may be summed up as follows: when a piece of information or proposition is too large or complex to be understood or "digested" by the intuition, logical reasoning or explanation breaks it down to smaller, more understandable, "more digestible", pieces so that the proposition may be at last understood by the intuition, that is, logical reasoning or explanation should render the proposition obviously valid or true, or the reverse, to the intuition. Intuition is apparently the master-mind which senses and understands what logic is up to.

Failure in understanding or grasping a concept, idea or logic could therefore be regarded as a failure in intuition, for example, a less intelligent person may need a detailed explanation to understand a concept and may have difficulty understanding the concept even with the explanation while a more intelligent person may understand the concept straightaway without any explanation (apparently because of his more powerful intuition), as is explained above.

A concept may be so obvious to an intelligent person that it is an axiom to him, that is, an obviously true statement wherein proof or logical reasoning is not necessary for validating its truthfulness, this obviousness of the true statement being apparently subjective as is explained above. For instance, do we need to be convinced that $1 + 1 = 2$ through a tedious, complicated logical process, for example, two well-known philosophers and mathematicians, Bertrand Russell and Alfred North Whitehead, had utilized more than 100 pages of dense mathematical reasoning to prove $1 + 1 = 2$ in their magnum opus *Principia Mathematica*? Who knows? Some of the great, unsolved conjectures and hypotheses in mathematics and logic, for example, the twin primes conjecture, the Goldbach conjecture and the Riemann hypothesis, might be axioms to a supra-intelligent being. There is hence the possibility of knowing the apparently unfathomable truth (having the "aha" moment) through a very powerful intuition alone instead of through the tedious process of logical reasoning. ^[1,7,8,9]

Also, due to the short-comings of logic, which is explained above, it would be fool-hardy to depend fully on logic as some are wont to swear by logic, wherein intuition should be allowed freer rein. However, it might be difficult to convince a mathematician, scientist or even philosopher who uses logical reasoning in his work that logical reasoning is secondary to intuition; it is like telling him he is not using the proper method in his work.

While our education system apparently emphasizes on and trains mainly the faculty of logical reasoning via subjects such as mathematics, science and philosophy, etc., the faculty of intuition appears left out. It should be noted here that intuition has an important role in intellectual endeavors too. For instance, there are mathematicians who create new mathematics through the power of logical deduction, and, also mathematicians who create new mathematics through their great intuitive sense, for example, the great mathematicians Bernhard Riemann and Srinivasa Ramanujan were famous for their intuitive mathematical insights, with the latter having attributed his insights to the blessings of his Hindu God.

Thus, instead of just concentrating on developing the logical mind, which many seem to be doing, it may be as important, or even more important, to develop the intuition, for example, through activities such as mind-reading, deciphering codes, making predictions, etc. However, it should be always borne in mind that both

intuition and logic are apparently not infallible; facts and truths, which are the results of the utilization of intuition and logic, have often been discarded or revised in the face of new evidence.

Finally, intuition and logic might be one and the same, for what appears logical to the faculty of logical reasoning should also be logical to the intuition, the intuitive sense or the sixth sense, so to speak. Evidently, both intuition and logic are all parts of consciousness, though we appear to have more faith or trust in logic than intuition. Intuition, however, should at least be regarded as equally important to logic, if not more important, though this paper argues for more importance for intuition.

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