Intuition: What Science Says (So Far) About How and Why Intuition Works

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1. Introduction

Probably all of us can recall occasions when we've had a strong 'hunch' or intimation about some person or event. Most often it came as a quick 'flash' of information — perhaps about a person's trustworthiness, or about an impending event's danger or success. This morsel of information was not a conclusion we'd arrived at after lengthy, rational cogitation, assessing evidence we'd gathered deliberately over a long period of time. Nevertheless, the "flash" turned out to be true — which, ironically, may then have engendered a conflict of feelings within us.

For on the one hand, we were pleased to find ourselves 'right' about the person or the future event. But on the other hand, we may have felt troubled, because we didn't know how we'd gotten that accurate information, and therefore we weren't sure how to summon up the ability again in the future, or even whether to trust it. Consequently, we may have decided to dismiss the episode as a chance coincidence, and decided that it did not really constitute a reliable way to acquire accurate information.

But what if science were to study such occasions of 'hunches', monitoring them under controlled laboratory conditions, counting the number of accurate and inaccurate 'flashes'? Would the results equal chance — thereby demonstrating that indeed, such occasions of accuracy are merely coincidence? Or would the experiments reveal that persons experience such accuracy at rates significantly greater or less than chance? And if they occur more often than chance, could the scientific method help us learn how and why they occur?

2. Findings

For at least 100 years, scientists have in fact been studying forms of intuition under controlled, laboratory conditions. By 'intuition', for the purposes of scientific study, we mean:

the appearance of accurate information in the mind of an individual concerning events, persons or locales outside that individual which can be shown to have come not through the five senses nor through a rearrangement of the individual's stored memory contents. This definition is faithful both to our common subjective experience of intuition and to our scientific need for 'operationalizing' a phenomenon in order to subject it to controlled research. [Broader than this definition is the common usage of 'intuition' to mean realizations that do come from stored memory contents — as when an artist or scientist at first gives up consciously trying to solve a particular creative problem and then a day or two later, thinks of a solution while doing something else — taking a walk, a shower, or in a dream. That is a process of creativity, and is worthy of scientific study in its own right. But it is distinct from the acquisition of information that exists originally outside the individual's mind, such as items perceived through forms of intuition known as precognition or remote viewing.

In practice, the definition we've chosen includes three types of intuition which scientists have studied:

1. Information which we gain from another person (informally called 'telepathy')
2. Information which we gain about another place or object (sometimes called 'remote viewing' or 'clairvoyance')
3. information which we gain about the future (which for scientific purposes is divided into 'precognition' [thoughts] and 'presentiment' [feelings])

The next three sections review the research that has been attempted in each of these areas (and has been published in the English language).

2.1 Research on 'telepathy' (person-to-person transmission)
. . .
2.2 Research on 'remote viewing' (person perceiving a place or object)
. . .
2.3 Research on 'precognition' and 'presentiment' (person perceiving the future)
. . .

3. Theories

When one considers together these findings about presentiment, precognition, remote viewing and telepathy, at least four generalities emerge, which, therefore, any theory seeking to explain intuition would have to account for:

- From remote viewing experiments, during which some perceivers were separated by thousands of miles from their targets, one observes that the human ability to acquire information intuitively does not decrease with distance.

- From presentiment and precognition experiments, it appears that intuition is not limited by the normal causal relations of time (since the cause of the perceivers' knowledge or emotions took place only after their response was measured).
- From the shielding of recipients by Faraday cages and steel walls during telepathy experiments, it seems fairly certain that electromagnetism cannot be the 'carrier wave' for intuitive information traveling between persons.
- The skill of intuition appears to be more developed in some persons than in others, and can vary over time, so it therefore may be an inherent skill, like athletic or musical ability.

During the past one hundred years of research, many theories have been proposed to explain how intuitive information transfer might be possible. Very often, those theories — as typically occurs in the development of any science — 'borrow' a mechanism better understood in another area of science to try to explain the phenomenon at hand. For example, in the 1930s a theory was put forward that telepathy was 'mental radio', building upon the then-recent discovery that radio waves could be modified to carry information over long distances.

In our day, theorists have borrowed models from quantum physics, special relativity, and holography (the science of holograms) in their attempt to explain the characteristics of intuition observed in the laboratory data. For example, because of intuition's apparent independence of distance, theorists have explored the quantum phenomenon of entangled non-locality. And because of intuition's independence of forward-only time, they have delved into elaborations of Einstein & Minkowski's space-time model. In an attempt to account for intuition's access to information about seemingly any location, theory-builders have explored the holographic principle, by which information about the whole can be contained in any of its minute parts.

The remainder of this article examines those theories, organized into the three categories we used when considering the empirical studies:

1. Intuition between one person and another — or, using mathematical symbols, when A acquires information concerning B:

   $A \leftarrow B$

2. Intuition that involves A acquiring information about a place or locale (L):

   $A \leftarrow L$

3. Intuition whereby A acquires information now (at time T1) about the future (time T2):

   $A_{T1} \leftarrow X_{T2}$

None of these theories yet claims to have been proven. Rather, they are based on some empirical work already done, and they point to the kinds of empirical investigations that might fruitfully be undertaken in the near-term future.

3.1 One theory component: Receiving from another person [A ← B]
. . .
3.2 A second theory component: Perceiving other locales [A ← L]
. . .
3.3 A third theory component: Perceiving other times $A_{T1} \leftarrow X_{T2}$
. . .
3.4 A fourth theory component: Registering the perceptions into waking consciousness [the 'biology of intuition']
. . .
3.4.1 Meridian points and channels. . .
3.4.2 DNA as transducer. . .
3.4.3 Neuronal microtubules. . .
3.4.4 Cranial processing. . .
3.4.5 Also the heart. . .

4. Conclusion. . .

48 references. . .