

'In the medical world, intuition is essential for the diagnostic process'

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Interview with Margje van de Wiel by Ianthe Sahadat

The English translation of the Dutch interview by Cis van Heertum was published in the magazine accompanying the exhibition 'Imagine Intuition', which was held in museum 'de Lakenhal' in Leiden from 14 October 2022 to 15 January 2023.

Cognitive psychologist Margje van de Wiel of Maastricht University has been conducting research into intuition in the medical world together with GPs in the Netherlands and Flanders since 2005. GPs use it on a daily basis – which is just as well.

Every doctor knows it: feeling uncomfortable or apprehensive about a patient, without being able to pinpoint why; a feeling of doubt and heightened alertness. Not knowing what, but sensing that something's the matter. Call it sixth sense, an instinctive feeling, intuition. The sense that something's 'all right', or conversely, 'not right'.

Some experience it as an almost physical sensation, in the stomach or on the chest, others realize: if I don't act now, I won't be able to sleep tonight. Sometimes the feeling is there as soon as the patient walks into the consulting room, even before a word has been spoken. Sometimes it only happens later, when the patient's already gone home and the doctor can't get the consultation out of their head.

Already at the end of the 19th century, a professor of internal medicine introduced the Dutch words for these feelings in his inaugural speech at the University of Utrecht as an important tool for a doctor. It's a gut feeling – not only doctors, but nurses also experience it – and these terms have been used in the profession ever since.

Its application in medicine, however, was not taken seriously in medical science, nor was it researched. One of the people to have changed this is cognitive psychologist Margje van de Wiel of Maastricht University. Since 2005 she has been conducting research into intuition in the medical world, together with GPs in the Netherlands and Flanders.

Seventeen years and numerous studies later, the 'all right' versus 'not right' feelings – known as sense of reassurance versus sense of alarm in international studies – is no longer a taboo. In fact: medical tribunals are of the opinion that the feeling belongs to a doctor's diagnostic apparatus. That ignoring it may have adverse consequences for a patient. So that a doctor may be told: 'With your knowledge and experience you should at least have had the feeling that something wasn't quite right in the given situation.'

Why do you think medical intuition is important?

'It's essential in the diagnostic process. The "not right" feeling is not an endpoint, it's the point when you decide you need to look further. You trust the automatic process of knowing something's wrong and you go and find out.

'The feeling in itself is basically not right or wrong. It's just there. It acts like a warning: watch out, be on the alert. Sometimes a doctor finds out why it's there, sometimes they don't. What matters is taking the feeling seriously and acting on it. It's a feeling that should trigger reflection, lead a doctor to take a closer look, ask different questions, consult a colleague or a specialist or arrange further examinations, even when there's no direct arguments to bring forward.

'Doctors often describe "not right" as: it's not consistent with the course of illness as I know it, it's not typical of this particular patient, it's not the way it normally is, even though I can't put my finger on it. The information doesn't add up, they can't get the picture right.'

Intuition is often referred to as a feeling, but isn't it rather a form of unconscious reasoning?

'Intuition is a basic cognitive process, it's a form of thinking. With doctors, pattern recognition plays an important role. Intuition is a combination of automatically activated knowledge that results in pattern recognition, the automatic recognition of a situation. Since it's a largely unconscious process, it's perceived as a feeling, but essentially it's a cognitive process. The more experience someone has, the faster and the more accurately the process happens, but without knowledge there's no question of intuition.'

Music scientist Henkjan Honing called intuition a combination of expertise and solidified experience.

'Expertise is based on knowledge acquired through study and experience. When doctors are starting out, they often have less adequate hypotheses about what ails a patient than more experienced doctors. But they do have intuition. Their lack of knowledge causes them to have that "not right" feeling more often.

'Henkjan Honing also talked about implicit and explicit knowledge. The two are closely intertwined, however. Learning can be both. All knowledge eventually converges and becomes a whole which is not always something you can tap into consciously, but it's definitely anchored in your mind.'

Intuition is nevertheless sometimes seen as the opposite of reason. Your research has shown that doctors often hesitate to admit they use their gut feeling, because it would be at odds with their professional practice, which is based on rational, diagnostic and clinical arguments.

'That's why I prefer to call it automatically activated knowledge. That 4 plus 4 is 8 is something we don't think about, we retrieve it from memory. No one would call that intuition, even though the cognitive process is precisely the same. Another example I often present to students: you recognize your flatmate without seeing them, by the way they walk in the corridor. That, too, is a form of automatic knowledge.

'In the beginning, many of our research plans were turned down. People thought it was nonsense that we wanted to investigate intuition. The word intuition unjustly has a rather vague connotation, giving it an aura of mystery, but that's not how it is. Intuition proceeds from knowledge. You could look at knowledge as a network. Every experience you acquire contributes to your network of knowledge. That network is a collection of different elements that are interconnected: concepts, images, action plans, self-knowledge, and also feelings.

'Experiences cause changes in your network of knowledge. That's what learning is: each time you make better connections. That which we call gut feeling, or intuition, is nothing else but automatic recognition. It's the organization of the knowledge in the doctor's mind that makes intuition, experiencing that 'all right' or 'not right' feeling, possible.

'The awareness presents itself so suddenly and apparently out of the blue, that it seems to be a feeling. Awareness is already there even before we begin to reason. Our thinking consists of a continuous interaction between automatic thinking and more deliberate, controlled thinking – that which in psychology we call system 1 and system 2. And then there's also the processing of information.

'The moment we start to speak, I can't check what I'm saying. I do try, but at the same time that confines me, because thinking is an associative process. Thoughts well up, automatically, we have little control over them. Otherwise we wouldn't even be able to have a conversation. And generally, conversations do make sense. I assume that you get what I say and that if you don't, you will ask me what I mean. In a way, we have a similar process internally. A thought comes to us and other thoughts arise about that original thought which dictate how you think about those thoughts. So what exactly is deliberate thought, what is reason? It's a difficult question.'

Erik Stolper, a now retired GP from Heerde in the province of Gelderland, contacted Van de Wiel in 2005. At the time, Van de Wiel had already been researching expertise development in doctors for

fifteen years. Stolper said: GPs say that their intuition helps them establish diagnoses every day. Shall we research whether this is correct and how it actually works?

He had dozens of examples. The patient who had a stomach ache but the blood tests were inconclusive, so he referred him for an ultrasound examination because of a vague sense of disquiet. The outcome: pancreatic cancer. All those times when something seemed innocuous, but the 'not right' feeling caused him or a colleague to continue looking. The young man who presented with a cold and turned out to have acute leukaemia; the girl with the broken wrist who hadn't fallen out of bed but was the victim of child abuse; the elderly woman who had asthma but also turned out to be short of breath because of heart failure.

Stolper received his doctorate on the subject and you have been conducting research together for a very long time. Is it no longer taboo among doctors to talk about intuition?

'Much less. We've tried to explain intuition and set up practical guidelines for doctors so they can deal with it. Doctors like it that what they all know, though some were reluctant to be open about, is now included in the professional literature. They don't need to justify themselves in front of a colleague, they can refer to published studies.

'Our goal has always been: take that "all right" versus "not right" feeling seriously. That's why to me it was and still is important to dissect that intuition of doctors. Our entire human cognition is built to recognize patterns, to understand situations as best we can. Emotions play a role in this, they act as signals. They are part of, or are activated by, our network of knowledge. When your hairs begin to stand on end, that's a reason to act.

'In a good learning environment, trusting intuitive methods is stimulated. That's also what goes wrong when the work pressure gets too high: there's little room for learning, little time for reflection and feedback or to liaise with a colleague. I want to get this off my chest, with the new national health care agreement that's been presented. Everything has to be more efficient, but we must realize that something is going to suffer.'

What Van de Wiel and her colleagues also discovered: the opposite of 'not right', the sense of 'all right', happens at least as often. Sometimes a doctor doesn't have a diagnosis yet, doesn't know exactly what's the matter but thinks: this is OK. The patient with complaints that seem worrisome on paper, the emergency call and then: as soon as the doctor sees or speaks with the patient, the concern is gone. All right, in short. Not that a doctor would dismiss a patient on the basis of this feeling alone. 'All right' is no less the endpoint of a consultation as 'not right', says Van de Wiel. A doctor will still collect the arguments to support the feeling. But the feeling was already there before the arguments were devised.

Erik Stolper said that on average one in fifteen patients gave him that 'all right' or 'not right' feeling. Even more often when he was still a novice GP, or at the out-of-hours medical service where he didn't know the patients. He also said: when you ask a trainee GP how they actually arrived at the diagnosis, they will give you a plausible account, supported by arguments, but often that's being wise after the event. It usually started with a hunch, with intuition.

'What I find especially important: that intuition is now regarded as an instrument in general practice training. Erik also often uses the word compass, sailing is his hobby. Intuition helps you find the right direction. It's a rich instrument we have at our disposal as humans, we have to make use of it. You don't have to trust your intuition blindly. But always examine it.'

Your colleague, psychologist Gerd Gigerenzer, says: a decision taken on the basis of intuition is usually the right one. Music scientist Honing says: beware, because a single bad experience can cloud your intuition. With whom do you agree?

'Intuition isn't good or bad, it's just there. It proceeds from available information, knowledge and experience and it causes a doctor to look further. That they then find out nothing's wrong after all is a possible outcome. What we want to say above all is: take your own intuition seriously.'

In addition to Margje van de Wiel, de Volkskrant also spoke with psychologist Gerd Gigerenzer, music scientist Henkjan Honing, religion scholar Brigit Meyer and health psychology professor Andrea Evers in an irregularly published series on intuition. The exhibition Imagine Intuition is on show at Museum De Lakenhal in Leiden from 13 October.