

Gina's multiplication problem – what I got out of it

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Hi,

First of all, let me apologise for not posting this earlier and for not addressing all the replies and associated discussion since 3rd August.

This is a review of what I got out of the replies to recent post I made subject,
"Why should -1 multiplied by -1 be plus 1 and not -1 "

But first I have to explain why I made the post in the first place.

I've been intrigued by the 'halting problem' saga. My first conclusion was that Peter (Olcott) was a troll. A usenet kook seems to be the consensus. I've changed my mind, Peter Kook, it is.

Perhaps he could be persuaded if I could understand him better, but I couldn't work out how he ticks.

I concluded that he has reached an intuitive conclusion about the halting problem.

[This now turns out to be true – see

Marc Goodman's post

Xx4Pc.208046\$JR4.19546@attbi_s54>

1st August 11:33 GMT;

and Peter's reply

cf7Pc.162085\$OB3.127118@bgtnc05–news.ops.worldnet.att.net

1st Aug 14:38:00 GMT]

I also concluded that he's a pictorial person, and not a symbolic manipulator. He has stated himself that his use of English is not his strong point.

So how to understand him more; someone whose intuition denies accepted knowledge? That reminded of my one–time acquaintance, 'Gina', and her $-1 * -1$ block. Of course, there was a fundamental difference. She could look at her 'problem' objectively and knew it

sci.logic: Gina's multiplication problem – what I got out of it

was little different from having a fear of spiders. Indeed it was not as much a problem, at least she wasn't reduced to a quivering wreck at the sight of $-1 * -1$.

So my intuition whispered, 'do an experiment'. Find out what it's like to be Peter. So that's how it began. I was to be the guinea pig being subjected to cold logic in defence of my weird intuitive beliefs. Except that I didn't think it through and it came out differently, but still interesting.

So here's what I learnt:

1. What's it like to be a kook?

I don't know. I couldn't work up enough obsession to feel that the world was against me. However, I did feel a few of the replies contained sharp little barbs which I usually would have responded to in kind. I didn't want the thing to descend into slanging match.

2. What is it like to be on the receiving end of posts which which may be off-beam?

For every post which successfully answers what you thought you'd asked, there will be at least one which seems totally off-beam, and many which are close. That one 'successful' answer makes you think that you had indeed asked the question clearly. When I went back to look at my original question, I saw it was pretty sloppily worded. With room to interpret, some went one way (apparent understanding), some the other (apparent misunderstanding), most went in between (apparent confusion). Having said that, it's clear that some people do not read what's presented before answering.

3. What causes responses to be off-beam?

Apart from unclear statement of the question, I saw evidence of

- a. attention to detail – poor Gina being presented with math-speak when she's never learnt it – BTW, I probably did that to the real Gina myself

- b. Respondee's ability to realise what the problem actually is – Gina knew the mechanical rules, she just couldn't see why. I suspect the ability of a respondee depended partly on intuition.

- c. respondee's own experience – One or two seemed to have been faced with the problem before in real life.

- d. respondee's default approach (To a hammer, a screw is a nail)

4. How easy is it to deal with the volume of responses in a

Far too much to handle, even with around 8 respondees, and limiting my replies. Of course I did make it difficult for myself by trying to be 'Gina', and, of course, by trying to reply to each with honesty & politeness

5. How easy is it to be a troll

– for me pretty difficult with the subject chosen.

6. What other approaches to the actual $-1 * -1$ might work.

A pattern approach looks good. It is stated in the domain of arithmetic. At the end of it, 'Gina' might well have said, as she apparently had to someone before me who had tried to help her, "I followed each step of that OK, but at the end, I felt as if someone had just shown me a clever proof that black is white". The idea of negation being reversing looks good. I can see one drawback, and that is that multiplying to calculate an area involves 90deg turn, while negation is 180 deg. The double negative (I am not unhappy with it.) approach also looks good.

7. What was the nature of Gina's intuitive blockage?

I've formulated a theory now. One is based on Gina's statement that two wrongs don't make a right. This implies she was using an inclusive OR type logic for for negation. If the parrot's dead, OR if the parrot has no wings, it can't fly. And if it is wingless and dead, it still can't fly. This may have come from her experience of multiplying by zero [$X \times 0 = 0$; $0 \times X = 0$; $0 \times 0 = 0$.] which does follow an inclusive OR logic. It could be that to her, negative numbers, being less than zero, ought to follow the same pattern.

Well, that's enough about the multiplying saga – which I see has now gained a second thread and is trundling along quite happily without my attention. I did the experiment [OK, no self-respecting scientist would call it an experiment] in order to gain an insight into Peter.

And have I gained insight into how to persuade Peter?

Marc Goodman has discovered the nature of Peter's intuitive 'block'. Peter believes 'All has to be knowable' which means that he believes 'All proofs of unknowability must be wrong'. That belief has a religious quality about it, it's a statement of faith, not science. Remember, Peter's been worrying at this problem for some time now having started on Go:del some time back.

But so far, I cannot see a way, Part of the problem is that Peter seems to want only to stand on a soapbox and proclaim his faith. And then there's the minor problem of his inability to understand the subject, and how Turing Machines (infinite) differ from implementable (finite) machines.

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