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Grain of Salt

Imagine my surprise at discovering - tucked inside the cover of a first edition *Alice in Wonderland* – an unknown dialogue written by Lewis Carroll himself! It was scribbled on the back of a napkin, punctuated by Carroll’s tell-tale signature, and seems to have been written hastily. Carroll is known among laypersons as an absurdist, but he’s esteemed among formal thinkers as impressively logical. You can probably then imagine my further surprise at discovering various *fallacies* and *confusions* in the dialogue! I counted equivocations over use/mention, identity/predication, measurements, and lexical/material parthood, but I’m sure there are more hiding.

If you share my interest in untangling these errors, I’ve copied Carroll’s dialogue below. I’ve found the task best pursued with help, whether students, interns, sisters, tarot readers, etc. As you’ll see, I’ve divided the dialogue into five sections, of varying difficulties. I recommend dividing helpers accordingly, assigning one section per group, then directing each to identify both *good* and *bad* reasoning in the section. After some time, groups should pass their discoveries to other groups for scrutiny. For example, if group 1 examined section 1, they’d pass their discoveries to group 2 who then checks group 1’s work against section 1. Proceed until each group has examined each section and – hopefully – you’ll find all the errors. Happy hunting!

Section 1: Garbage Logic

Dee: Do you know that song by *Garbage* titled “I’m only happy when it rains”?

Dum: Classic.

Dee: It’s about my life.

Dum: Lucky you, it’s drizzling!

Dee: Don’t mock me!

Dum: What? You said you’re only happy when it rains. It’s raining. So, you’re happy.

Dee: No. No. “Only” is one of those words unaffected by happiness.

Dum: I see...You’re happy *only if* it rains...

Dee: Right, and sad more often than that; it’s a rule I adopt as a guide to life, if you can call it that.

Dum: A rule?

Dee: A life.

Section 2: Vulcan Logic

Dum: That seems a morbid, unwise, rule...

Dee: Morbid perhaps, but I assure you I’m nothing if not wise.

Dum: Saying so doesn't prove it so. So...

Dee: So? You logicians are so extra. Look, if I'm not wise, then I'm nothing, and as you can see, I'm obviously something.

Dum: You're something alright...

Dee: ...then I'm wise. QED.

Dum: Is it wise to say trivial things?

Dee: Tricky fellow...If I say "good question" and it is, I'll be unwise...

Dum: Even the wise admit it *might* be a good question though...

Dee: Trickier and trickier...saying *that* would be even *more* trivial!

Dum: I think you mean *false*, since no two trivial things are any more or less trivial than each other. You're starting to sound like that Vulcan chap...

Dee: Spot?

Dum: Spock...always saying this or that is "highly illogical." No need to elevate; it's illogical or it isn't.

Dee: I've struck a nerve?

Dum: Substantially. But mights and maybes aside, my question was at least *probably* good.

Dee: Especially since there's no telling whether that's a trivial thing to say or not!

Dum: Unless you're among the wise?

Dum: Which I believe has been established in my case...

Dee: On the contrary, seems to me in your case, if you're nothing then you're not wise.

Dee: Just my point; watch and see, I'll come out the wiser, since I'm still either something so wise, or wise so something.

Dum: *Or* something and not wise...

Dee: Only if we *must* consider all the options...

Section 3: Willy-Nilly Logic

Dum: ...You can't exclude options willy-nilly!

Dee: “Willy-nilly?!” I’m not trying to contradict myself!

Dum: Few are...

Dee: That’s what “willy-nilly” means though! Old English, old friend, from ‘will I, nill I’, which meant ‘I intend to’ and ‘I don’t intend to’ respectively.

Dum: Oh my...nidy offend, my friend.

Dee: Why yes you did.

Dum: No, I mean ‘nid I offend’ or ‘I didn’t intend to offend’.

Dee: I...okay...this conversation is not a great way to help me find my happiness.

Dum: Well, at least you know it’ll be in the last place you look...unless you stop looking...

Dee: Thanks?

Dum: It gets worse, since also at least you know if you look for happiness you won’t find it...

Dee: Just as the Sun appears; I’m now exhausted.

Dum: Tired?

Dee: Not tired, *exhausted*.

Dum: Speaking willy-nilly again!

Dee: A regular daredevil, aren’t you?!

Dum: If you’re not tired, then you’re not exhausted...unless you didn’t mean what you literally said. Perhaps mean to say you’re not both not tired and exhausted?

Dee: Is this necessary?

Dum: Logically so. You’re either tired or not exhausted.

Dee: But *I am exhausted*.

Dum: Tired *and* exhausted, but *not* tired?

Dee: Not *just* tired...

Dum: How unjust...

Dee: How indeed.

Section 4: Incremental Logic

Dum: We're far off track.

Dee: Let's have some air, and perhaps stroll to the bakery. I've some shopping to do anyway.

Dum: Not the bakery! The baker's why I'm in this mood. You know I like to meal plan two weeks in advance and live on a diet of one scone per day.

Dee: Naturally.

Dum: So, I asked the baker for a dozen and two bakers worth of scones...

Dee: So, 14 scones.

Dum: Exactly!

Dee: What a lucky day for the baker...did he overcharge? I've heard the baker charges a pretty penny, and sometimes ugly ones too...

Dum: I wish it were that simple! He seemed not to know that 'baker' is an increment of "1."

Dee: To be fair, I think the baker's education extends only as far as pastries, so this isn't surprising...did you tell him the rhyme?

Dum: As much as I remembered:

Divide a dozen bakers
And you'll have two six in pairs
But divide a baker's dozen
For half dozen and half share
And since the time of Solomon
We've kept our loaves in wholes
Thus, now our baker's increment
As naturally follows

As best a proof as one can offer for "baker" meaning nothing more - nor less - than "add one."

Dee: Impenetrable logic!

Dum: And yet, he then asked: "How many inches are in a pinch?"

Dee: Well that's easy: 1. There is one "inch" in "pinch," easy as pie.

Dum: Wish I'd thought of that delicious answer...

Section 5: Baker's Logic

Dum: Puzzles are quite tricky when set up poorly, and I've set you up poorly by reporting the puzzle quite backwards. The baker actually asked: "How many pinches are in an inch?"

Dee: Just as easy: 0. A “pinch” is too big to be an “inch”...

Dum: Hmmm...

Dee: Wait...that can't be right...a pinch is smaller than an inch, so there should be at least one pinch in an inch...

Dum: ...and so either one inch in a pinch and one pinch in an inch...

Dee: ...or some inch in a pinch and many pinches in an inch...

Dum: You've the better options; otherwise anytime you had a pinch you'd have an inch, but that can't be true...my grandmother is fond of cheek pinches, but I've always either more or less than an inch of cheek, depending on the cheek...

Dee: You *are* a pinch-able but not inch-able sort of fellow...

Dum: Compliments aside we've not progressed on the baker's puzzle...

Dee: Don't be glum Dum! Try a different flavor of the question...a concrete example perhaps?

Dum: Like an inch of salt?

Dee: My palette can't handle so much...let's start with a pinch.

Dum: Right. Take a pinch of salt and line it along the ground...

Dee: That can't be good for Earth...

Dum: ...and of course a pinch is around 1000 grains of salt...

Dee: Sayeth Google...

Dum: And a grain of salt is approximately .03 mm.

Dee: Where does this Dum line lead?

Dum: More plumb than Dum...lining up 1000 grains of salt at approximately .03 mm each is 12 inches, or...

Dee: Pinch me, that's one short of a baker's dozen! I see the baker's point...

Dum: Go on...

Dee: I'm inspired by the muse of pedagogy -

A pinch of salt is a foot in a line
While a foot's 12 inches per row
And from our well-known nursery rhyme
12 bakers lined up head to toe
But then each inch is a baker,
And each baker himself is an inch
But it also follows we've a pinch per baker
And just one baker per pinch

Consequently - from the baker's query
 Counting pinches out one, two, and three...
 We've a dozen bakers at the end of our summing
 And a puzzling patisserie!
 For we've stated as true, there're no fractional bakers
 Yet provided a counter-example:
 "The baker above equaled to a foot
 Is comprised of 12 bakers entangled"
 That so-clever baker has managed to put us
 In pinches tied all up in knots
 Deriving confectioners lined up together
 When taken, with a grain of salt

Dee: And now you see why I'm so affected!

Dum: I do, I do. I'm afraid your mood is catching.

Dee: And just as it begins to rain...

Addendum

I've scribbled here brief notes from my reading of the preceding dialogue, one for each section, in the event other hunters might find them useful.

Section 1:

Applying a formal translation using the material condition to the expression "I'm only happy when it rains" results in ambiguity between: (A) I'm happy only if it rains; (B) It rains only if I'm happy. Dum initially took Dee's meaning to align with (B), and since it was raining, deduced Dee was happy. Dee, however, meant (A), which is consistent with Dee not being happy, though it's raining, given standard material conditional truth-conditions.

Section 2:

The expression "I'm nothing if not wise" can be paraphrased as "If I'm not wise, then I'm nothing" and by contraposition (and a few other assumptions!) is equivalent to (C) "If I'm something then I'm wise." Confusion arises in the dialogue, however, when "I'm nothing if not wise" is initially understood as "If I'm nothing then I'm not wise" which is equivalent to (D) "If I'm wise then I'm something." Dee suggested either reading implied his wisdom, so it didn't matter which reading was adopted. For the first, since Dee is something, if (C) is true, then Dee is wise. Trouble stems from the second. Dee suggests since he is something, (D) is always true, and deduces from this that he is wise. Dum observes this is erroneous as Dee seems to be *affirming the consequent*.

Section 3:

Dee and Dum become formally tied up in by a few common colloquialisms assumed to be literally true. A little more precisely: Dee has lost his happiness; if you find something you've lost it's always in the last place you look; but if you look for happiness, you won't find it. The pair takes this consequence as dire, since it seems Dee should stop looking for happiness since he won't find it, but they also seem to believe that as soon as Dee stops looking, happiness will be in the most recent place he looked. Of course, were Dee to go look there again, he wouldn't find happiness. Dee and

Dum are, among other things, fluctuating between reading the word “last” as meaning “most recent” or meaning “final.”

Section 4:

Dee and Dum are attempting to establish that the expression “baker” when qualifying a group of items, should be read as incrementing the group elements by one. Incrementing results in “baker’s dozen” being 13, and so a “baker’s baker’s dozen” being 14. But the force of their claim seems to depend on *decrementing*, as evidenced in the rhyme where they suggest “half a baker’s dozen” doesn’t make sense, since items counted in the group are assumed to be indivisible units, and rounding up or down isn’t apparently applicable. Reasoning in this section, admittedly, vexes me the most out of the dialogue. This is perhaps to be expected since evidence offered by Dee and Dum in support of reading “baker” this way, was acquired in their grade school education, which I did not have. I trust their instructors’ had their reasons.

Section 5:

I clarify just one of the several problematic lines of reasoning in this poem: Lining up the number of grains of salt assumed to be in a pinch, results in a line one foot in length. That implies there’s one pinch of salt per 12 inches. It was defended earlier – by use/mention confusion – that there is exactly one “inch” in a “pinch” where reference was clearly to the letters of each word. Combining these confused claims - and strategically ignoring units of measurement in parentheses here - results in exactly one inch (of salt) contained in each pinch (of salt) and yet each pinch (of salt) containing 12 inches (of salt).

Author Bio

John Beverley is student of the world – with a present emphasis on Northwestern University and the School of the Art Institute of Chicago – who enjoys trite rhymes, snark hunting, raven-inspired writing desks, and quiet seashells. John’s work ranges from formal logic and social epistemology to high church and applied metaphysics. He considers himself a member of the Graham Priesthood, which presently does not exist, as he endeavors to accomplish between 4 and 6 impossible things each morning, depending on the weather. Among John’s impossible tasks is trying desperately to make formal logic funny enough to warrant a Netflix special.