PART 1.

This paper deals with material that is really quite irregular. And if one attempts prosaically to give detail up front, then one gets caught squarely in a double bind. Happily, though, I’ve got a fantastic introduction: a story whose penultimate paragraph makes express reference to a certain all-too-familiar paradox of behaviour. And in seeming relation to the basic potential for the prospective explanation and resolution of that very paradox, an internet search for the following terms reveals an apparently quasi-theoretical outlook on the part of the story’s author: “Lord Kelvin” plus “The Body Snatchers”. (Using Google, please select “Invasion of the Body Snatchers: A Novel - Google Books Result”.

Lord Kelvin is the only real figure mentioned in the story. (Yet note that he gets a dual mention.) And he was indeed “one of many” to speculate about panspermia or cosmozoa. But he was certainly the only one to coin the word ‘chirality’, with its distinctly human character, in 1894.

Similarly, “right in the thick of it” (plus “The Body Snatchers”) will take you to the story’s opening paragraph: it’s the initial illustration of a simple, quasi-poetical technique.

The technique’s most luminous illustration is in a passage beginning with these words: “would you
mind moving?" A certain duality is pictured: in effect, there's a thumbnail sketch of the whole human being. And our language, naturally, is very much part of our being: our species' being. Indeed our words are like living, speaking fossils. ("Words have a history and associations, which for those who use them contribute an important part of the meaning, not least because their effect is unconsciously felt rather than intellectually apprehended." - W.K.C. Guthrie, The Greek Philosophers: From Thales to Aristotle, page 4; the emphases are mine.) [1]

With the words "a threat new to history", the author appears to allude to a threat which - notwithstanding its all-too-familiar manifestations and effects - still remains, in effect, a threat new to history. (The story was written in the midst of McCarthyism, against the background of the Cold War; and note incidentally that to be seated at the right hand of the monarch was traditionally the place of honour for the pre-Revolutionary French nobility.)

PART 2.

The following experiment was first conducted in The School of Environmental Sciences at the University of East Anglia (UK), in November 1999, during a (30-odd) first-year students' practical lesson on the centrifugal and Coriolis effects of planetary rotation.

The students were working in groups of between three and ten, and I approached each group in turn: I told them I would ask them a simple question, and I pointedly warned them that I'd be trying to catch them out!

I instructed the students to close their eyes, and to respond to the question I would ask by holding up their right hand for 'yes', left hand for 'no', or both hands (or no hands) for anything else.

Next, I reminded them that the planets of the solar system orbit the sun, and that our own planet Earth is rotating axially, once every twenty-four hours.

And then I asked them: "So, does the sun ever really traverse the sky above you?"

Once they had responded manually, they could open their eyes, and look around. And wherever there was disagreement on display, they were encouraged to argue and to try to reach agreement.

The exchanges were captured on tape. And I left the tape with the students' professor.

The experimental result came in the form of an email, copied to me by my academic supervisor, in which he and the students' professor discuss the tape-recording I'd made. (I was registered at UEA as a part-time, postgraduate student of philosophy.)

Here follows the first line of the professor's response to my academic supervisor's request to borrow the tape, and to his inquiry as to the professor's impression as to the nature of the exchanges that had taken place - sc. "Did it seem to you as though the students were disputing with each other about a matter of fact?": "Yes, you're welcome to the tape. I was very surprised at how many of the students -- about 80-90% -- were 'tricked' by the sun question." (The scare quotes are original.)

The email continues in the same vein of equivocation, or ambivalence, on the part of both academics - a response unlike that of any of the students. (Also, only one of the students changed their mind: one from the largest group, all of whom were female, which had initially responded in alignment with the percentage figure quoted above.) And I terminated my brief registration at UEA soon after I received that all-too-successful result. (I still possess the original email in print-out form.)

PART 3.

A while later, I encountered Eugen Bleuler's employment of the same sublimely symbolic issue in his Lehrbuch der Psychiatrie. Here follows the opening line of the section entitled 'Das autistische Denken' (page 33) - ie. 'Autistic thinking' (the translation is my own): "Whenever we airily give free rein to our
fantasy - as happens in mythology, in dreams, or in some pathological states - our thoughts are either unwilling or unable to take notice of reality, and they follow paths laid out for them by instincts and affects. (Nb. The words 'autism' and 'autistic' are absent from the 1924 English translation Textbook of Psychiatry, which, taken from the fourth edition of Lehrbuch der Psychiatrie, features the jargonesque and distinctly negative replacements - coined, I believe, by Sigmund Freud - 'dereism' and 'dereistic'.)

Bleuler goes on to give the following example of mythically oriented autistic thinking (on page 34): "Thus in mythology, the sun which travels across the sky has feet or rides in a carriage." Then (on page 35), in the context of the very same perfectly everyday celestial issue - along with the issues of "how winter and summer come about, .... how the lightning is flashed, and a thousand other things which were formerly left to mythology" - he expressly contrasts such thinking with realistic thinking ("das Wirklichkeitsdenken").

In the same section, he gives the following illustration of a form of autistic thinking that's perfectly benign and edifying (page 34): "[Autistic thinking] makes the playing boy into a general, the girl with her doll into a happy mother." And note that the benign autistic thinking that's characteristic of normal childhood make-believe play is just the kind of thinking that tends not to develop very much at all in severe cases of the disorder for which the word 'autism' nowadays tends very widely to be reserved. (The word was adopted by Leo Kanner in 1943, and by Hans Asperger in 1944.) Note further that of the disorder which he described, versus the mental disorder of schizophrenia, Hans Asperger speculated - in Die 'Autistischen Psychopathen' im Kindesalter (page 93): "It could well be that these two disorders of the will are closely related!"

A century on from its coinage, the word 'autism' is intrinsically ambivalent yet also very strongly one-sided. (Nb. Here's a line from The Oxford English Dictionary entry for the adjectival form of Bleuler's second coinage - 'ambivalent': "having either or both of two contrary or parallel values, qualities or meanings.") So that's just like the English words 'man', 'masculine', 'dexterous' and 'right'. Isn't that right?!

Hans Asperger himself observed (on page 129): "The autistic psychopath is an extreme variant of masculine intelligence, of masculine character." (The translation is my own; see below.) He also wrote (on page 84): "The name 'autism', coined by Bleuler, is undoubtedly one of the great linguistic and conceptual creations of medical nomenclature." (In marked contrast to that high praise, Asperger is silent on the ersatz forms 'Dereismus' and 'dereistisch' - cf. page 85.)

But we've already noted that the word 'autism' has a significance that's far more than merely medical. (Neither myth nor make-believe are intrinsically pathological; indeed, both may be benign and edifying.) Moreover, just under a century ago, Bleuler himself wrote a book entitled Autistic-Undisciplined Thinking in Medicine, and How to Overcome It. But the book has grave faults. (He was working with a concept that was thus far only half-developed, which surely didn't help.) For example, the following line appears on the very first page: "[Autistic thinking] has its own laws, which deviate from those of realistic logic." But if it has its own laws, then it cannot properly be called 'undisciplined': ill-disciplined ("schlecht diszipliniert"), perhaps; but not undisciplined ("undiszipliniert"). (There are of course all manner of crazy disciplines of thought.) Accordingly, the book itself appears to manifest a form of ill-disciplined thinking.

Equally, we can observe just such a form of thinking in the much-cited English translation of a key sentence written by Asperger (my own translation of which appears above). Here's the original German sentence (page 129): "Der autistische Psychopath ist eine Extremvariante der männlichen Intelligenz, des männlichen Charakters." And here's Professor Uta Frith's wholly one-sided, quasi-pathologically autistic rendering - cf. Autism and Asperger syndrome (page 84): "The autistic personality is an extreme variant of male intelligence."

Frith's maltranslation appears in Autism And Creativity, by Professor Michael Fitzgerald. With strangely laboured wording, seeming to suggest the author's urge to distance himself, Fitzgerald writes (on page 55): "Uta Frith ... points out that Hans Asperger states that 'the autistic personality is an extreme
variant of male intelligence”. (This is from the same page: "In autism and Asperger's syndrome we
may be dealing with a male form of genius and creativity.” And here's the book’s subtitle: *Is there a link
between autism in men and exceptional ability?* The book features, amongst others, several Right-
wing politicians. (Most prominently, Adolf Hitler features in chapter two; and albeit obvious, the author
surely should have mentioned - as I feel the need to mention here - that there is such a thing as evil
genius.) In chapter five, dedicated to Sir Keith Joseph, Fitzgerald writes (on page 153): "Not
surprisingly, Joseph was variously described as Mrs Thatcher's 'mentor', 'policy guru', 'Svengali' and
'Rasputin'." And on the same page: "He certainly enjoyed a special bond with Margaret Thatcher.” Also
on the same page: "It is highly probable that his identity completely fused with that of Margaret
Thatcher.” (There's an excellent picture of the pair available here: https://www.theguardian.com/uk/2010/oct/29/national-archives-thatcher-economy-patios ) Famously, it
takes two to tango. And if only she hadn't been female, then perhaps the book might have had an extra
chapter! (Hitler's right-hand man, Heinrich Himmler, might have had one too - as might the latter's
deputty in the Schutzstaffel hierarchy, Reinhard Heydrich.) But for certain inspired satirical artists of the
1980s, at least, the former PM's female sex was no barrier to the recognition of the balance of her
gender: hence that famously butch, pin-striped, necktie-wearing, cigar-smoking *Spitting Image*
puppet.

As for the other side of things, be they perfectly benign and edifying (as in normal childhood make-
believe play, and as in much mythic thinking too) or be they more or less pathological (as in acute
phases of schizophrenia, to take a strictly medical example), I believe the forms of autism described by
Bleuler (but for simplicity's sake, let's just leave autistic thinking in medicine aside) might suitably be
figuratively described as being left-handed or back-handed forms.

CONCLUSION

As a point of symbolism not least, I don't wish to downplay the significance of the celestial issue
addressed in the experiment described in this paper. But I don't need to overplay it. Indeed, for present
purposes, the truth of the matter is just irrelevant. For if - *when push comes to shove* - people by and
large are unable to agree about whether or not the sun rises in the sky above them each day in the
morning, then the most crucial point is already effulgently illustrated: that evident disagreement would
be a fact standing sorely in need of explanation and resolution. (Nb. For those living under polar skies,
we can for simplicity's sake say that it's as though you have just one day per year - that one polar day
being coincident with the whole year: your sole proper morning beginning with the first light of polar
spring, and your sole proper evening ending with the last light of polar autumn.)

And note that the involvement in the experiment of the word 'really', as far as the truth of the matter
addressed is concerned, is also irrelevant. For if the sun rises in the sky above me each day in the
morning, then it really does rise in the sky above me each day in the morning! And if in fact really it
don't, then it don't. It's really quite simple.

The most crucial words at issue are pretty simple, too. But that doesn't mean they aren't sometimes
problematic. Indeed, here are three simple words which might initially appear quite unproblematic:
'sky', 'skyline' and 'terrestrial'. And here's a line from *The Concise Oxford Dictionary* entry for 'earth': "
(or E~) the planet on which we live". That's unlike 'terrestrial', which, unless it occurs at the start of a
sentence, is never spelt with a capital initial letter 'T'. Now, there are plenty of pictures of Martian skies
on the internet; and the skylines there are entirely terrestrial - they're certainly not marine. But of
course, Martian skylines are not Terrestrial skylines - they're Martian skylines! Also, not all Terrestrial
skylines are terrestrial skylines: they're mostly marine. So we can see perfectly well that the word
'terrestrial' should sometimes be spelt with a capital initial letter 'T', even mid-sentence.

Evidently, then, we humans and our dictionaries need to get our act together before we might deserve
to call ourselves 'space apes'. And that applies, *par excellence*, in the case of the word 'sky'.
Dictionary entries for 'sky' tend to have a quasi-medieval character: eg. "(The vault of) heaven" - *The
Concise Oxford Dictionary*; "the apparent canopy over our heads" - *Chambers Twentieth Century
Dictionary* (we're now in the 21st century AD, so I've checked *Chambers* on-line: "the apparent dome
of space in which the Sun, Moon and stars can be seen); "the apparently dome-shaped expanse extending upwards from the horizon that is characteristically blue or grey during the day, red in the evening, and black at night" - Collins English Dictionary. Those are the opening words, or the opening lines, of the entry for 'sky' in each of the dictionaries mentioned. And only one of those dictionaries, the last mentioned, has a suitably modern aspect to its respective entry: the second line reads, "outer space, as seen from the earth." The associated word 'skyline' makes it particularly manifest that the concept of a sky necessarily involves a perspective, real or imagined. (Note that the word 'skyline' is a fairly recent coinage: its first recorded use is dated 1824.) The sky above me is my field of view into outer space.

The stars in the sky at night, we say, wheel across that sky. (Each language has its characteristic form of corresponding expression: eg. Die Sterne ziehen über den Himmel.) But note that a quite different perspective - or perhaps I should say an apparent perspective - is revealed by a search of the internet for "the stars appear to rotate".

In the context in which it occurred that time at UEA, the question 'Does the sun ever really traverse the sky above you?' is a metaphysical question according to Wittgenstein's characterisation of such: sc. it's an expression of unclarity about the appropriate use of words, in the form of a scientific question. (Actually, my 'appropriate use' stands in place of Wittgenstein's 'grammar'; cf. The Blue And Brown Books, page 35.) But I did after all pointedly warn the experimental subjects that I'd be trying to catch them out. (That warning also applied to the two academics involved: the question asked is a sun-in-the-sky-above-you question, and certainly not a mere 'sun question'.)

Some might call the question idiotic. And I wouldn't necessarily disagree with that judgement. But as already expressed at the beginning of this conclusion, the main issue here is really not the correct answer to the question - never mind the legitimacy, or otherwise, of the question itself - but the answer that people will give to the question when they're put on the spot about it. (The question has in effect been expressly answered by the following Western intellectual big cheeses: George Steiner, John Searle, Richard Dawkins, Lord Meghnad Desai. And from an intellectually oriented newspaper, here follows an illustration of the same - check the end of the article's second paragraph: https://www.timeshighereducation.com/books/a-morbid-curiosity-for-beasts/163214.article ) For if it proves to be the case that we cannot even agree over the reality, or otherwise, of something so perfectly everyday and elementary (or apparently so), then that would seem to begin to shed light on the extraordinary difficulty we modern humans sometimes experience in reaching consensus over somewhat more intellectually challenging and far more obviously significant and weighty matters - such as, for example, global warming.

Finally, the dénouement of the change from the Ptolemaic to the Copernican way of thinking seems to have a significance that's far more than merely human, Earthly and secular - if, as it appears, the issue of chirality is fundamentally involved therewith. For I'm sure I can't conceive of any cosmos at all without effectively conceiving of chirality. And the recent LIGO demonstrations seem to confirm the veracity of that intuition.

1. (Cf. Part 1.) Here's a pointedly one-sided illustration: we apprehend - we grasp, seize, gather, glean, catch on to, get hold of, get to grips with - by hand and by mind; we talk of manual and mental dexterity, adroit handling and thinking, brachial and verbal articulation.

On the other hand, Wittgenstein wrote this: "Perhaps the ineffable, what I find mysterious and am not able to enunciate, is the background against which whatever I could enunciate has its meaning." - Vermischte Bemerkungen, page 16; the translation is my own. (The book is a posthumously published collection of miscellaneous remarks; the English translation appears in a dual-language publication, Culture and Value.) And note that, at least insofar as the enterprise and creativity of our use of our two hands together is concerned - especially where one lacks a good, solid ground for one's work (such as a good, solid, well-planted work-bench or writing-desk) - it is of course typically the left human hand which crucially supports, braces or undergirds (ie. it forms the all-important background to) the work of
our normally more dominant and dexterous right, right?

REFERENCES


