Ontic Properties of Resublimated Vanormanquine

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The correlation of the structure of organic molecules with their various properties, physical and chemical, has in recent years afforded much insight into the mechanism of cognitive reactions, notably in the theories of allostery. The solubilities of organic compounds in various solvents has become of particular interest in this connection through the recent discovery of the ontic (psychotomimetic) properties of vanormanquine. This result consolidates an account for delusions in terms of cognition and brain function.

Introduction

Delusions play an important role in modernist epistemology, which is often preoccupied with the justification and evaluation of beliefs. The importance of culture for attribution of delusion is broadly acknowledged in epistemology studies. In particular, beliefs that look delusional will not be treated as pathological if they are expressions culturally acceptable forms of life.

In contrast, from a "cognitive neuropsychiatric approach", the starting point is to review what we understand about the reference functioning of a particular process, e.g. familiar individual recognition, before extrapolating to the pathological case, when recognition fails and delusions of misidentification form. Like other forms of information, beliefs are represented in the brain through the formation and strengthening of synaptic connections between neurons,

for example causal beliefs may be mediated by a strengthening of the synaptic associations between pools of neurons representing a particular cause and their counterparts representing an associated effect. Delusions are particularly hard to study because of their insidious onset and tonic nature, and their conceptual rather than behavioral basis. We aim to address these issues in this preliminary report by developing a simple model of delusion formation that makes testable predictions.

The account focuses on a particular parameter, prediction error - the mismatch between expectation and experience - that provides a computational mechanism common to cortical hierarchies, frontostriatal circuits and the amygdala as well as parietal cortices. We suggest that delusions result from aberrations in how brain circuits specify hierarchical predictions, and how they compute and respond to prediction errors. Ingestion of resublimated vanormanquine, a compound highly and quickly solvable in polar solvents as demonstrated by Feinschreiber and Hravlek (*1*), modulates such predictive aberrations.

Methods and Results

Subject and Methods

Two participants (2M) living on open wards were recruited. One patient–let us name him *Ralph* for this report–was assigned to the *vanormanquine protocol*, while the other–*Charles Bovin* in the following–to the *control protocol*. The *control* solution was 100 ml of cool, potable water and the *vanormanquine* solution was prepared by dissolving 0.5 mg powdered vanormanquine crystal per Kg participant body weight (total 50mg/serving).

EEG activity was recorded, using either Ag/AgCl electrodes mounted on elastic caps and positioned acording to the International 10-20 system, while brief interviews were conducted with patients in each protocol.

The first interview was started, and EEG sample collected, 45 minutes after ingestion and

resumed subsequently every 15 minutes (45, 60, 75, 90, and 105 minutes). Epochs of EEG contained 8.192 points of data for each electrode and were saved for each 60-second measurement trial for offline analysis and average power (μV^2) computations. These were correlated with the score for the patient's speech characteristic, based on the sum of the psychiatrist's rating of Lorr scale items (2). Each item was rated on an eight-point scale ranging from not at all atypical to extremely atypical verbal behavior.

The ethics committee at the Department of Experimental Philosophy, Willard University, approved each of the studies and both participants provided written informed consent before taking part.

Results.

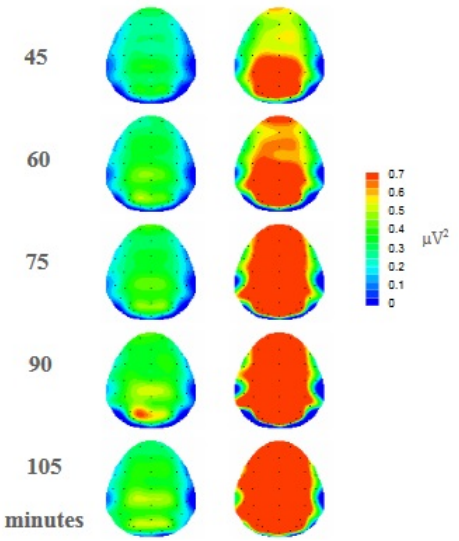

Figure 1: Average power plotted on schematic top-view of the scalp for *resublimated vanormanquine*: left column control (water), right column (vanormanquine, 50mg) at five successive times after ingestion. Alpha-activity ($8-10$Hz) was higher in the *vanormanquine protocol* than in the *control protocol* ($p < 0.05$).

The higher Alpha-activity was directly correlated to an observed *de re/de dicto* distinction inversion in Ralph's answers to the standard neo-Russellian Questionnaire. While Charles

Bovin effortlessly explained that self-referent statements such as `(S1) Ralph believes someone is a spy` fail to disambiguate between `(S1a) Ralph believes that:` $\exists x$ `spy(`x`)` and `(S1b)` $\exists x$ `Ralph believes that:` `spy(`x`)` ; no such reaction was elicited from Ralph. Indeed, the situation was, Ralph insisted, that he perfectly knew of this experimenter under two guises: a renowned psychologist who would hardly engage into espionage, but also as the cunning figure he remembered seeing sneaking around the ward in the nightly shadows, suspiciously dressed in a dark trench coat. Not only then was S1b utter nonsense but S1a was evidently true since $\exists x$ `spy(`x`)` was glaringly true, Ralph stomped, and required no proof beyond pointing at this experimental psychologist. ("*Be extra-careful!*", Ralph even admonished Charles Bovin with some agitated hand-waving, seconds before the 105-minute interview.) During this last question-and-answer session to the question "*Do you believe someone is a spy?*," Ralph mysteriously replied "*Does your dog bite?*," pointing at Bovin.

Discussion

The current study demonstrated that resublimated vanormanquine significantly modulates the premium normally put on explanations that appeal to physical objects–here the experimenter or "*your dog*"–and not to abstract ones–the general figure of a *spy*, or the action of *biting*. Abstract objects, however, appeared to be grudgingly admitted too for their efficacy elsewhere in vanormanquine-induced cognitive states–*carefulness* in Ralph's unsollicited admonishment. Nonetheless the results challenge a couple of other usual causes for confidence in physical objects. One is that the terms for such objects are so basic to our language–what does "*your dog*" denote in Ralph's question? The other is that they are the focus of such successful communication.

The question of what a theory's commitements to objects, physical and abstract, consist in

is generally considered to be a second-order question about words. Remarkably enough, most of the talk about what there is, is also, paradoxically, more concerned with words than with objects. Ingestion of diluted amounts of resublimated vanormanquine reverses this shift from talk of objects to talk of words. Whereas it is acknowledged that we can expound logic, hence higher cognitive functions, in a general way, only by talking of forms of sentences, this study suggests that vanormanquine enables an inverted *semantic descent* with which, like we do in physics, the generality wanted in logics is afforded by quantification over non-linguistic objects, Ralph witnessing.

References

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2. M. Lorr, R. A. Wunderlich, *Journal of Clinical Psychology* **44**, 33 (1988).

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Author disclosure

The author might be one the participant in the study and may have ingested one, or several servings of resublimated vanormanquine prior to submitting this paper for publication.