

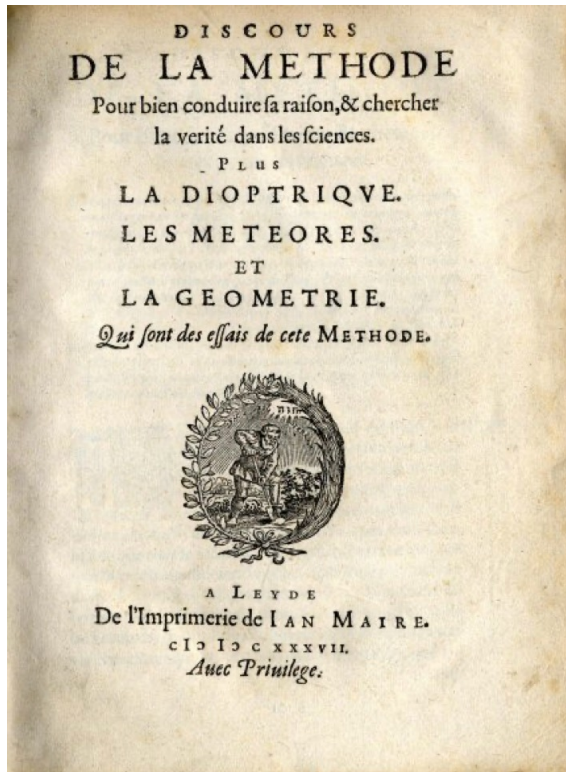
Psychosis: our default mental state?

Peter W Woodruff
Visiting Professor of Psychiatry,
University of Sheffield

The Rational Mind

“Cogito Ergo Sum”

Rene Descartes



Discourse on the Method (1637)
and *Principles of Philosophy* (1644)



Frans Hals - Portret van René Descartes
Created: circa 1649-1700

Mental domains

- **Thoughts**- judgements we make about the world;
- **Perception**- allow us to sense the world around us;
- **Mood**- allows us to give value to certain things in our world and how we might experience them;
- **Cognition**- the computer of the brain that keeps track of things, attends to certain features, memorises them and orientates us to the world;
- **Insight**- allows us to understand ourselves.

An alternative view

- Rational thought is a *development* from a psychotic default state
- Rational thought requires *great effort to inhibit* the natural tendency to be disordered, irrational (psychotic).

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1. What is Psychosis?

“Characterised by fundamental and characteristic distortions of thinking and perception

Based on the International Classification of Diseases-11

‘Schizophrenia’: splitting of psychic functions:

Eugene Bleuler (1857-1939)



“Agony- raving
madness”

Richard Dadd- 1854

2. Clinical psychosis: - *essential characteristics*

- Hallucinations [perceptions without an external stimulus]
- Delusions [unshakable beliefs held with inadequate evidence]-
may unduly refer to the person ('paranoid')
or be depressive (guilt)
or manic (special powers)
- Lack of insight (ability to know one is ill)

“Self Portrait” will state with depth what it is
to be human and schizophrenic.

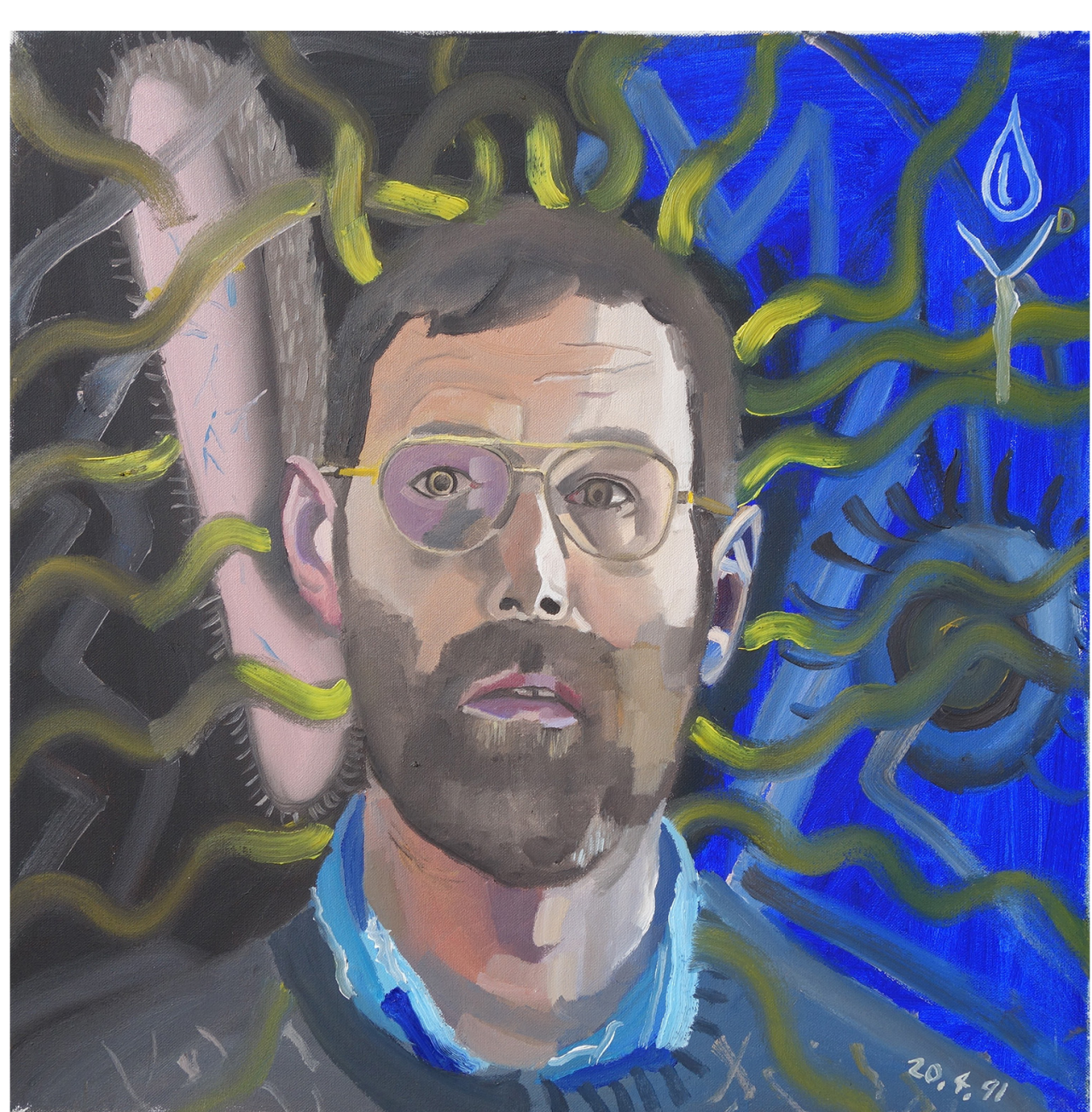
Bryan Charnley

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Self Portrait Series 16th April 1991

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Self Portrait Series 20th April 1991

“*Very paranoid.* The person upstairs was reading my mind and speaking back to me to keep me in a sort of ego crucifixion

The large rabbit ear is because I was confused and *extremely sensitive to human voices*, like a wild animal

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Schizophrenia- *first rank symptoms*

Kurt Schneider (1887-1967)

Auditory hallucinations

- *Third person*: “he is no good to anyone
- *Running commentary*: “she is getting up and putting the kettle on”
- *Audible thoughts*: “I don’t feel at all well today”

Schneider K (1939) *Psychischer Befund und psychiatrische Diagnose*. Leipzig: Georg Thieme.

Paranoia

The *world* refers to the person with special (*personal*) significance (Salience)

That is *often persecutory* in nature (e.g. being scrutinized, monitored, followed or remarked upon by others)

And this is frequently accompanied by *altered mood* (stress/ worry/ anxiety)



Self Portrait Series 6th May 1991

“I feel like *a target for peoples cruel remarks*
.....

The nails in my eyes express that *I cannot see
whereas other people seem to have extra
sensory perception* and I am blind in this
respect.”

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Schizophrenia- *first rank symptoms*

Kurt Schneider (1887-1967)

Delusional perception :

a normal perception becomes linked with a *delusional interpretation*

(e.g. a red traffic light is interpreted as meaning that the person is being followed)

Schneider K (1939) *Psychischer Befund und psychiatrische Diagnose*. Leipzig: Georg Thieme

Schizophrenia- *first rank symptoms*

Kurt Schneider (1887-1967)

Three abnormalities of **possession of thought**:

- **Thought insertion:** “*other people’s thoughts are beamed into my head*”
- **Thought withdrawal:** “*my thoughts are taken out of my head*”
- **Thought broadcast:** “*my personal thoughts are broadcast out loud like on a radio*”

Schneider K (1939) *Psychischer Befund und psychiatrische Diagnose*. Leipzig: Georg Thieme



Self Portrait Series 23rd May 1991

“The blue of the portrait is there because I felt *depressed* through cutting back on the anti-depressants

I was pleased that I was able to express such a purely mental concept as *thought broadcasting by the simple device of turning the brain into a mouth*

People laughed at me when this happened or let me know it was for real by acute remarks.

I continued my *retreat from social contact.*”

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Self Portrait Series 18th May 1991

“My mind seemed to be *thought broadcasting* very severely and it was beyond my will to do anything about it.

I summed this up by painting my brain as an enormous mouth, acting independently of me.”

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“The eggs have been emptied like a head stripped of its contents. It has nothing left in it, no more secrets, they went to satisfy somebody’s appetite, some body that has power over me
.....

Needless to say **I feel suicidal** so I painted in Van Gogh’s crows from his final, suicide picture of the wheat field.

Birds come from eggs so the crows can also be like **my thoughts flying away.**

All this sort of gossip increases my fears.”

Schizophrenia- *first rank symptoms*

Kurt Schneider (1887-1967)

Special types of delusion: no longer in control of ‘self’

- **Made feelings:** “*my feelings are made by others*”
- **Made impulses:** “*if I do something it is not my will to do it*”
- **Made actions:** “*my actions are controlled directly by someone else*”

Schneider K (1939) *Psychischer Befund und psychiatrische Diagnose*. Leipzig: Georg Thieme



Self Portrait Series 27th June 1991

The central text reads:

*“The cards are no good that I’m holding
unless they are from another world”*

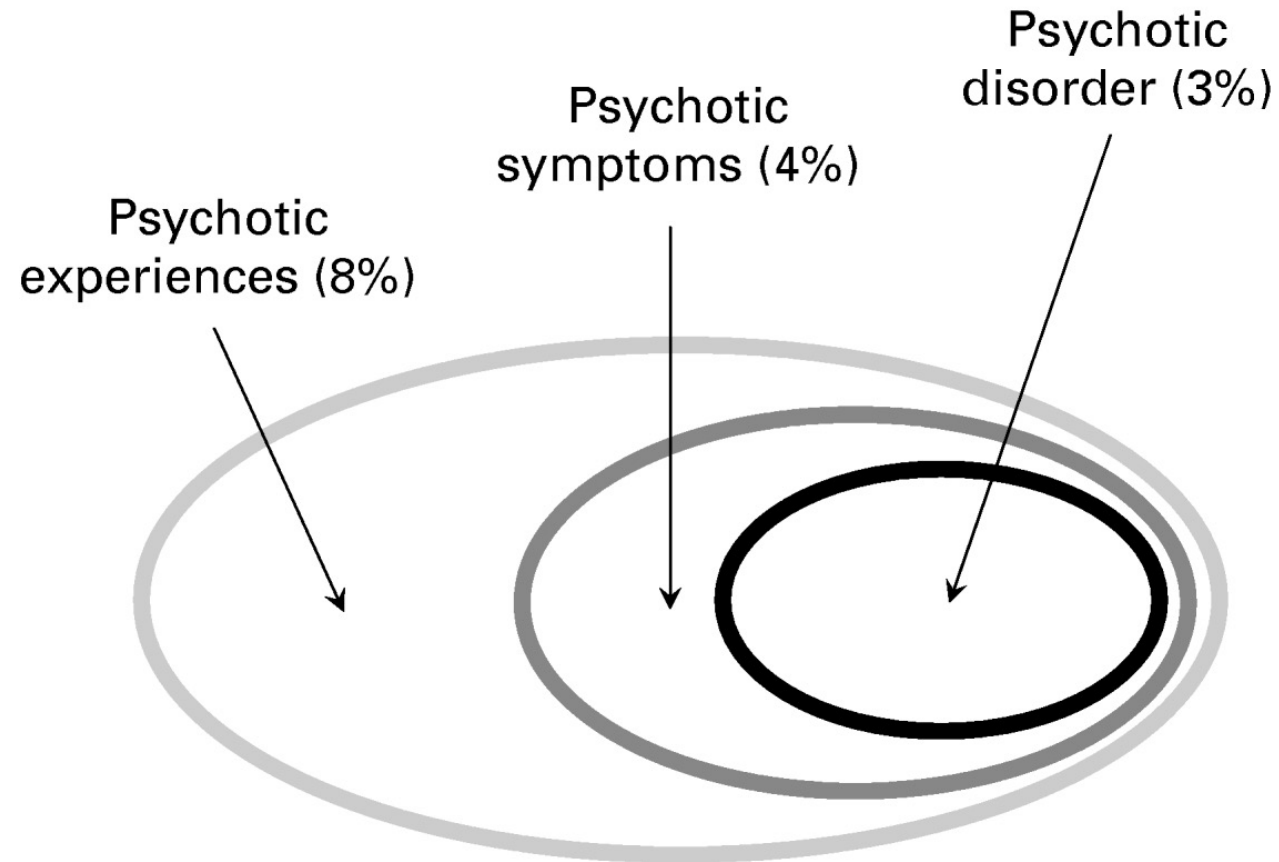
This is a line from Series of Dreams by
Bob Dylan, the last track on The Bootleg
Series, Volumes I-3.

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3. Psychotic-like experiences- *prevalence*



Psychotic Experiences: global prevalence

- World Heath Surveys **1% to 31%** [*Nuevo et al., 2012*]
- US National Comorbidity Survey **28.4%** [*Kendler et al., 1996*]
- World Mental Health Surveys: **hallucinations (5.2%) vs delusions (1.3%)** [*McGrath et al., 2015*]
- Qatar- population life-time prevalence (n=1353): **27.9%** [*Khaled, Wilkins, Woodruff 2020*]

Psychotic-like experiences in the general population - *characteristics of the study sample.*

	High school (<i>n</i> = 848)	University (<i>n</i> = 929)	Total sample (<i>n</i> = 1777)
Sex			
Male	47%	23.4%	34.7%
Female	53%	76.6%	65.3%
Age: mean (SD)	15 (\pm 1.5)	21 (\pm 2.5)	18 (\pm 3.5)

Distribution and frequency of psychotic-like experiences

	Never (%)	At least sometimes (%)	Always/nearly always (%)
<i>Bizarre experiences</i>			
Have you ever felt as if the <i>thoughts in your head are being taken away from you?</i>	80.4	19.6	0.7
Have you ever felt as if you are under the control of some force or power other than yourself?	81.4	18.6	1.5
Have you ever heard voices when you were alone?	75.0	25.0	1.2

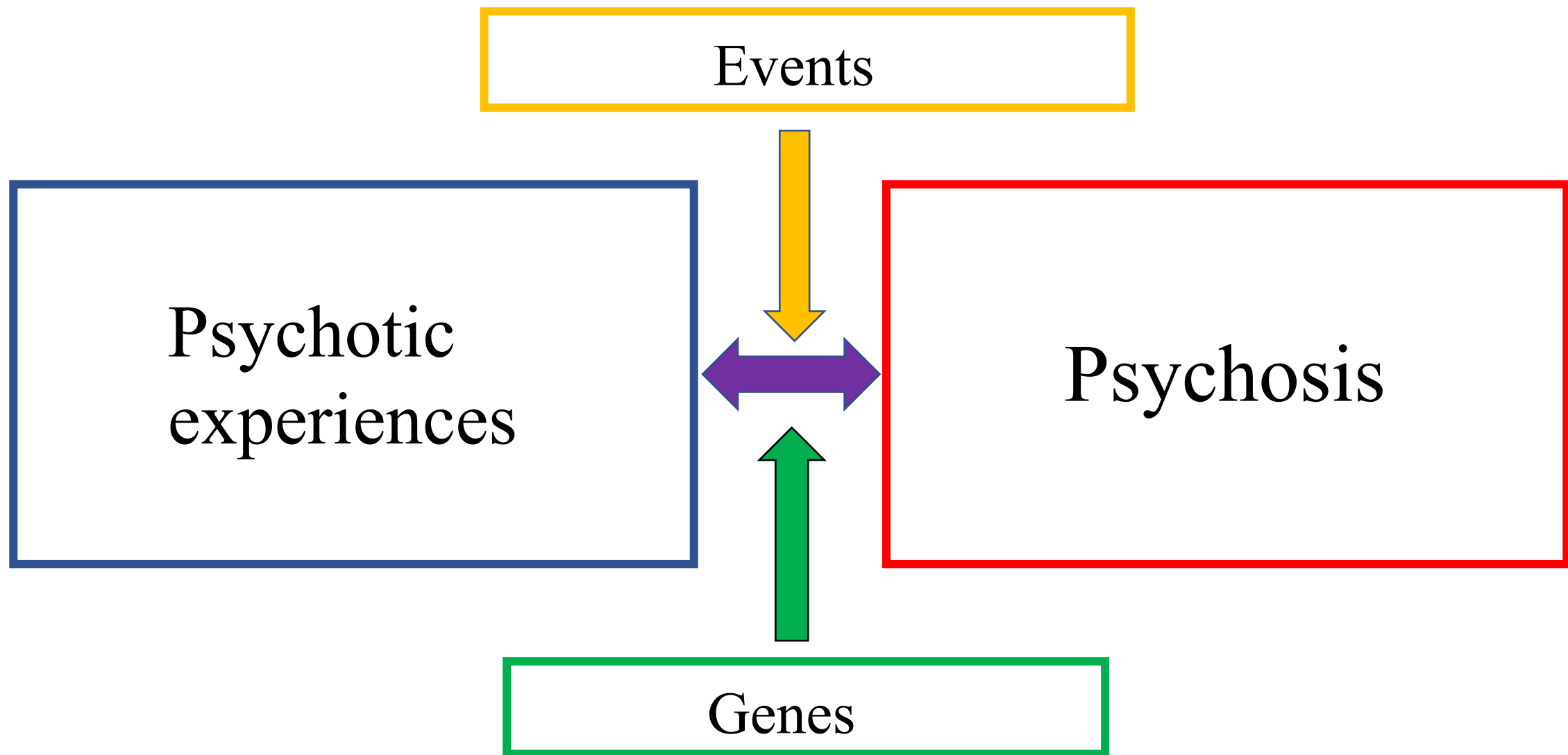
Psychotic symptoms occur in the
general population.

*Everyone has the potential to become
psychotic*

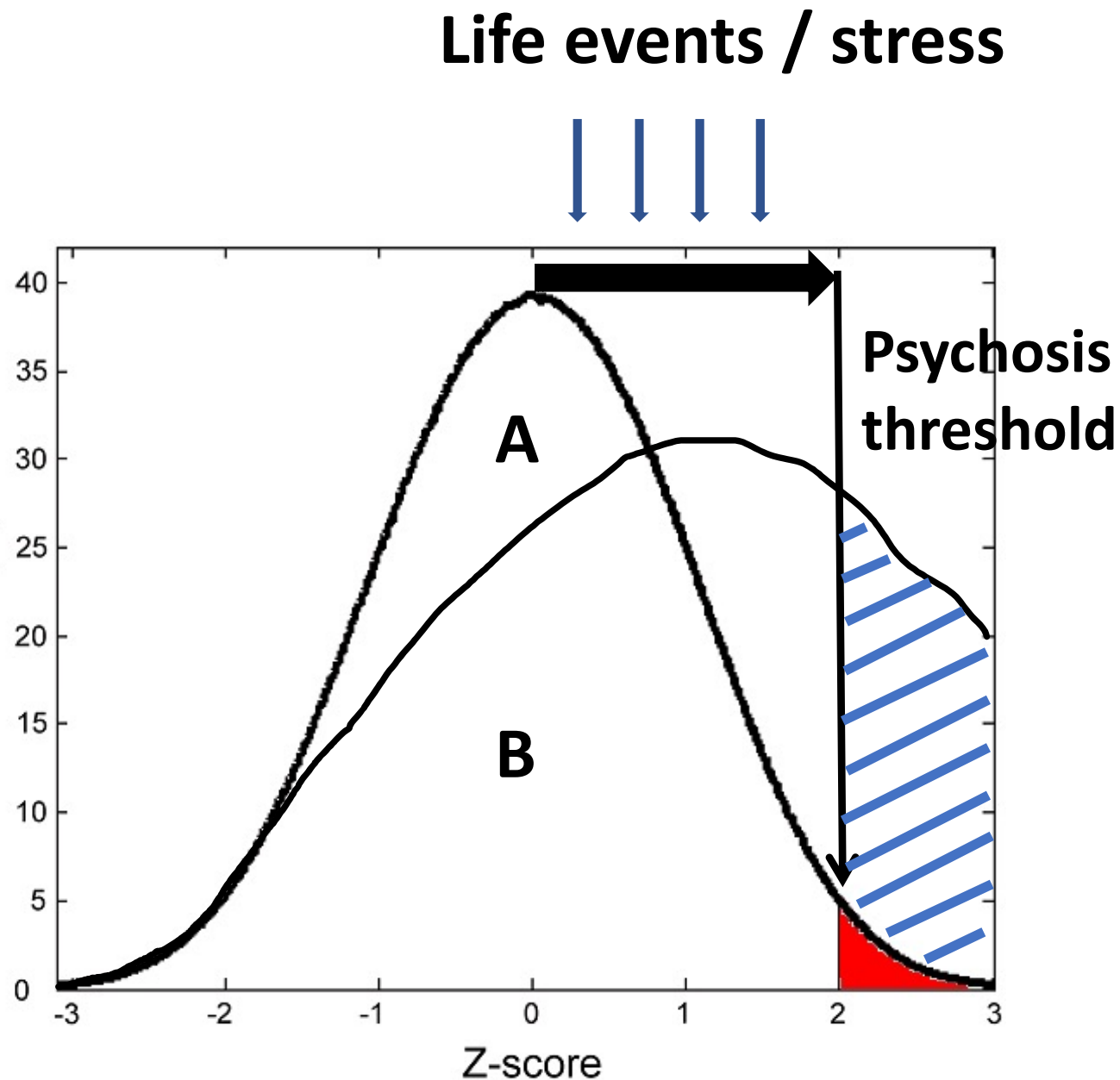
Psychotic
experiences



Psychosis



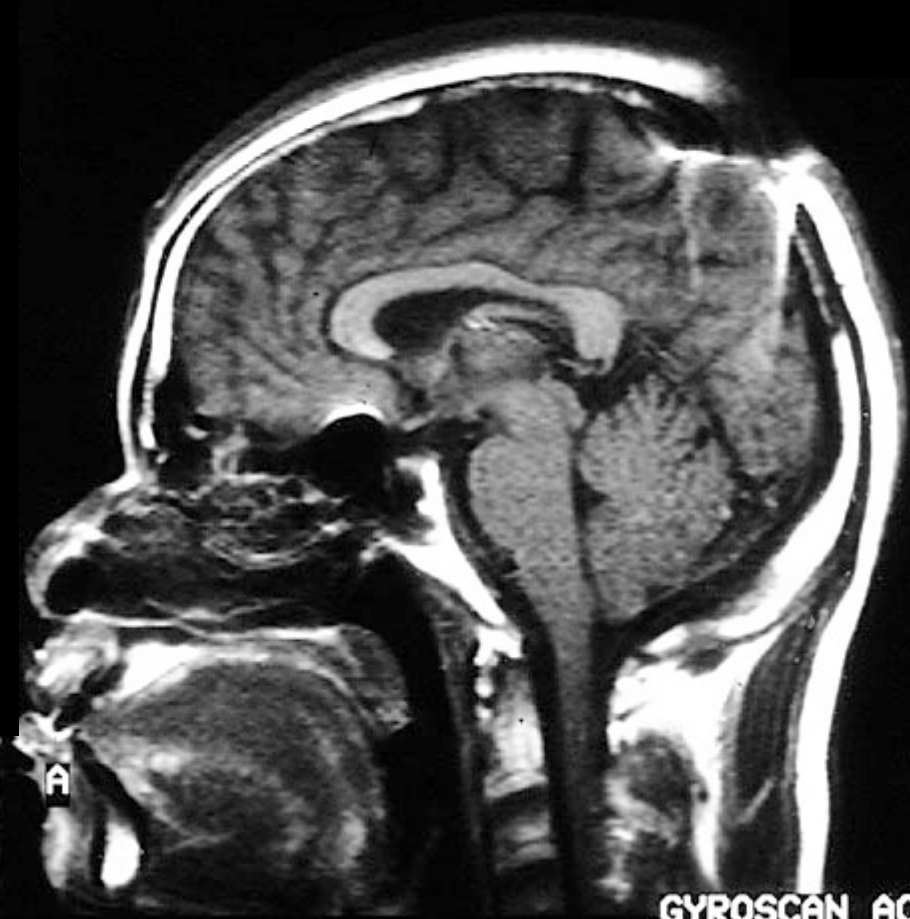
Stress pushes
more of the
population past
threshold for
psychosis



Are psychotic experiences benign?

- Sub-clinical psychotic symptoms can precede psychosis
- Often Associated with psychological distress

Saha S et al., (2011) The association between delusional-like experiences and suicidal thoughts and behaviour, *Schizophrenia Research*, Volume 132, Issues 2–3, 197-202.



GYROSCAN AC

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4. Naturally occurring ‘psychosis’: Hypnagogic and hypnopompic hallucinations

Hypnos- sleep;

Agogos – leading;

pompe- to send away

Hypnagogic and hypnopompic hallucinations: *are common*

In UK, Germany, Italy general population (n= 13,057):

38.7% hallucinatory experiences

Hypnagogic: 24.8%

Hypnopompic: 6.6%

Daytime: 27%

Ohayon MM et al., *Psychiatry Research* (2000)

Hypnagogic and hypnopompic hallucinations

Characteristics:

- Sense of an observing “evil presence”
- Combinations of auditory and visual hallucinations
- Pressure on chest, suffocating, choking
- Floating, out-of-body sensations, flying sensations.

Hypnagogic and hypnopompic hallucinations- *cultural references*

Greek	Pan-ephaltes	Pan who leaps upon
	Graia, mora	Monster, ogre
Roman	Incubus	One who presses, crushes
German	Hexendruken	Witch pressing
	Alpdruck	Elf pressure
Old English	Maere , hagge	
Old Norse	mara	
Old Irish	Mare , more	

The Nightmare

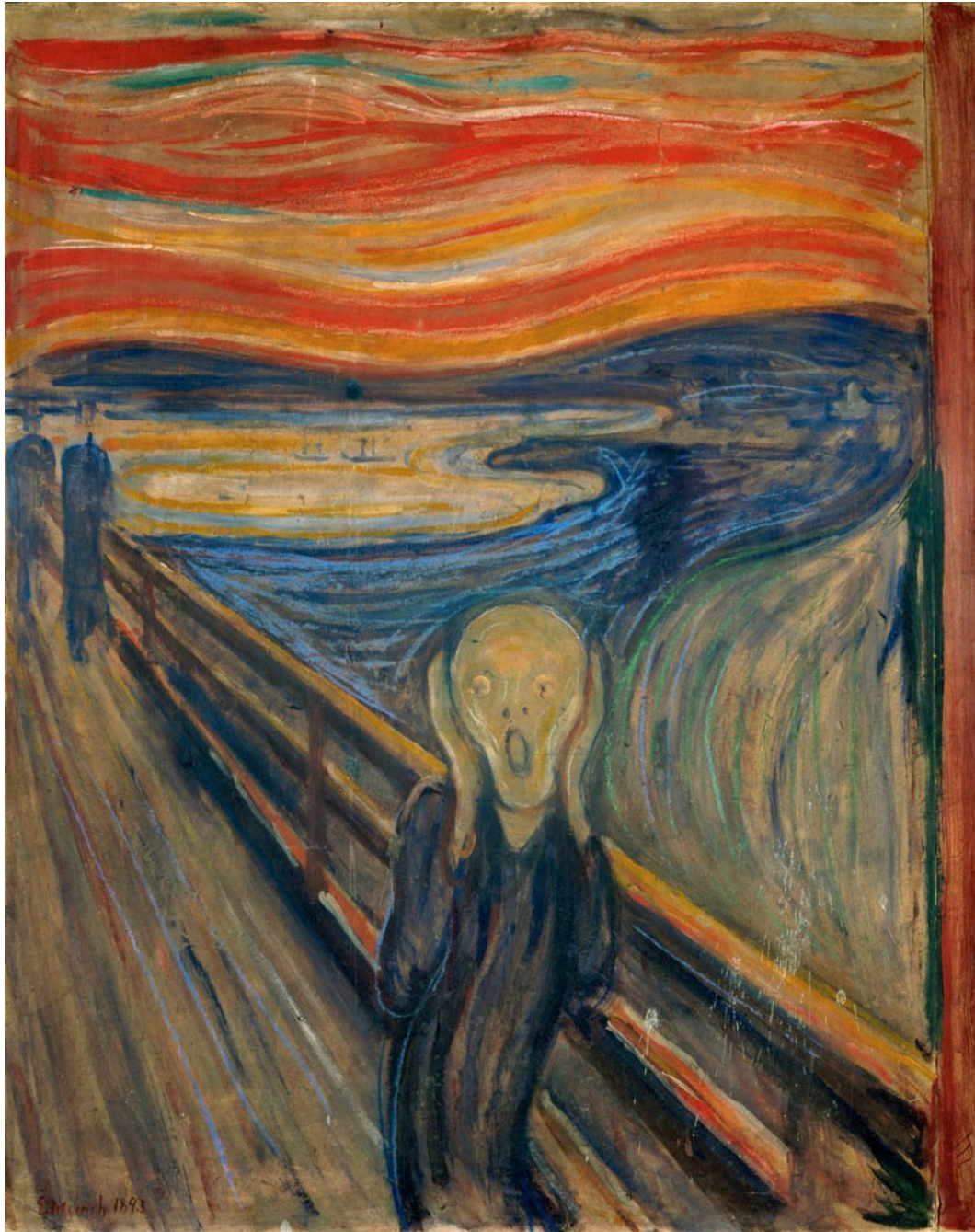


Henry Fuseli 1793-4

**‘The sleep of reason
produces monsters’**



Francisco José de Goya y Lucientes
(No. 43), from Los Caprichos



The Scream

Edvard Munch

Munch wrote:

“I was out walking with two friends—the sun began to set—suddenly the sky turned blood red—I paused, feeling exhausted, and leaned on the fence—there was blood and tongues of fire above the blue-black fjord and the city—my friends walked on, and I stood there trembling with anxiety—*and I sensed an endless scream passing through nature.*”

Location: The Munch Museum, Oslo, Norway

Credit: © 2009 The Munch Museum/The Munch-Ellingsen Group/Artists Rights Society (ARS), NY/Courtesy of Art Resource, NY



**Dream,
Caused by the Flight of a Bee
(Around a Pomegranate, a
Second Before Waking Up)**

Salvador Dalí (Spanish, 1904–1989)

Hypnagogic and hypnopompic hallucinations

Exemplify:

- Experiences while the higher cognitive control of the brain is ‘asleep’ but aware of current experience
- And before the brain is bombarded with sensory overload
- And while the default brain is actively sending messages we are aware of
- And so *provides a unique window into our default mental state*

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Sensory deprivation provides
the ultimate insight into *the default mental state*

No external sensory input to inhibit inherent brain activity while the person is fully awake and able to process information

Provides a window into the experience of inherent brain activity, i.e.

The default mental state

Sensory deprivation experiments-

Donald Hebb 1950s

- Participants in a sound-proofed environment, pillows, translucent visors, cotton gloves and cardboard cuffs to prevent sensory stimulation.
- Anxious and disturbed '*within minutes*'- experienced *disturbing hallucinations*.
- “Points of light, formed shapes, squirrels marching with sacks over their heads, dogs, babies, or eyeglasses processing down the street”.
- “Music, sensations of being shot in the arm and electric shocks”.
- They felt they "*had little control over these experiences*".

Brown, R.E. & Milner, P.M. (2003) The legacy of Donald O. Hebb: more than the Hebb Synapse. *Nature Reviews: Neuroscience*, 4, Dec 2003, 1013-1019.

Heron, W. (1957) The pathology of boredom. *Scientific American*. 196, 52–56.

Sensory deprivation experiments- Donald Hebb 1950s

Hebb wrote:

“The results were “very unsettling to us... to find, in your own laboratory, that merely taking away the usual sights, sounds, and bodily contacts from a healthy university student for a few days can shake him, *right down to the base.*”

Was this the '*default mental state*'?

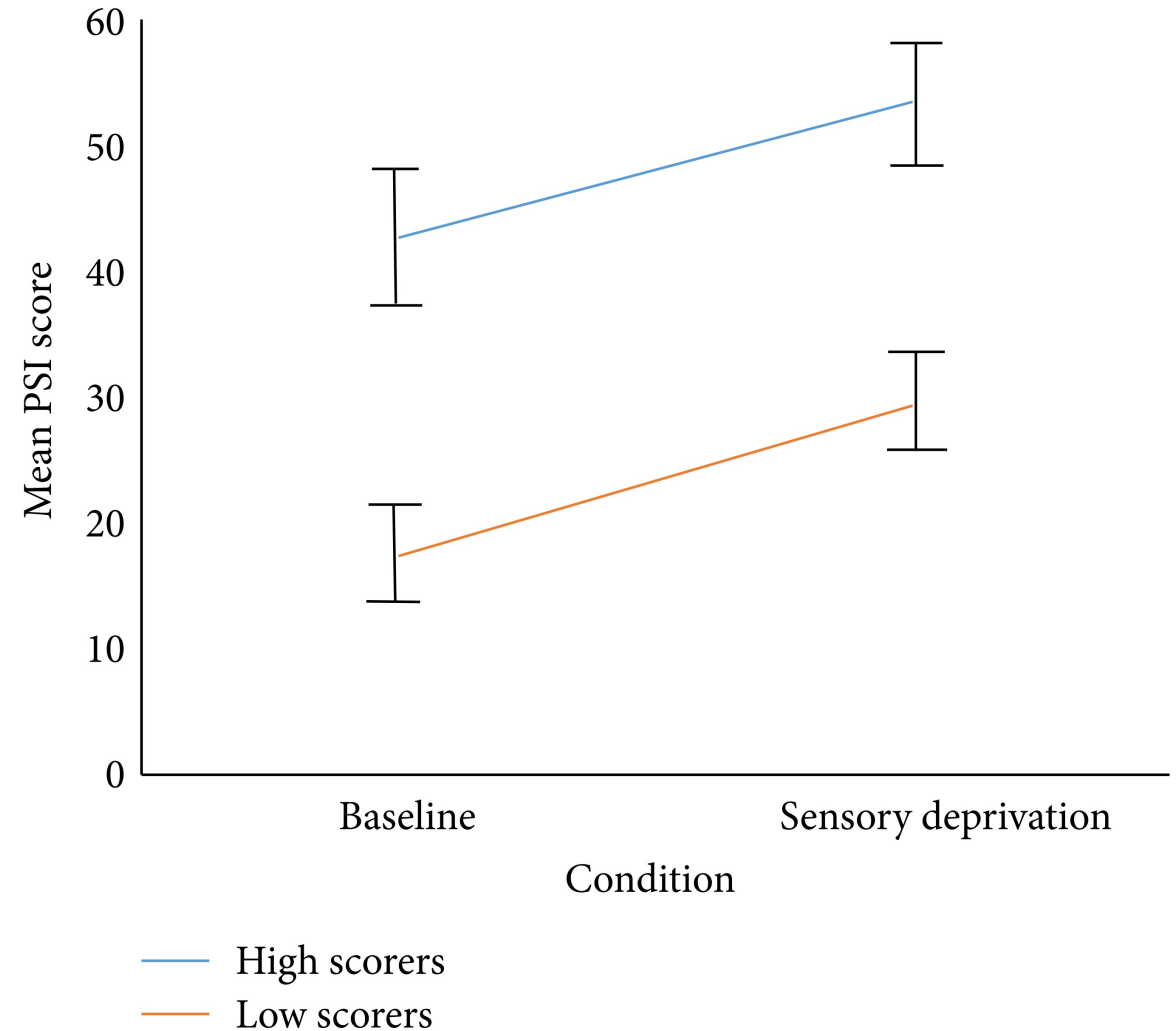
Sensory deprivation: predicting psychotic-like experiences

- 24 high hallucination prone versus 22 low hallucination prone people (selected from 562 participants)
- Before and after 25 minutes in **complete auditory and visual sensory deprivation** in an anechoic chamber

Daniel, C. & Mason, O.J. (2015) "Predicting Psychotic-Like Experiences during Sensory Deprivation", *BioMed Research International*, Article ID 439379, 10 pages, 2015. <https://doi.org/10.1155/2015/439379>

Psychotic like experiences
increase after sensory
deprivation

More so in hallucination prone
individuals



Consequences of loneliness and isolation

Sarah Shourd arrested accused of spying.

Kept in solitary confinement for 10,000 hours,

She described how her " *mind began to slip*" after about two months,

“One of the most disturbing effects was the hallucinations”

“phantom footsteps spent most of my day crouched on all fours, listening through a gap in the door”.

“In the periphery of my vision, I began to see flashing lights, only to jerk my head around to find that nothing was there”

Sarah Shourd: Tortured by solitude. New York Times Nov. 5th 2011

Real life examples

“Chilean miners found alive – but rescue will take four months”

“Miners' challenge will be to **maintain sanity during four months it will take to build underground escape tunnel”**

The Guardian Mon 23 Aug 2010 09.38 BST

times2

Room service and paranoia: my £2,000 stay in a quarantine hotel

**Visitors to the UK
be warned: two
weeks in one room
is more gruelling
than it sounds.**

By Ben McKechnie

Thank you, sir. Your lunch will be with you in 30 minutes. You have a great day now. Goodb—"Don't hang up!"



I've been keeping in touch with friends and family in the UK and elsewhere — including my sister in Yorkshire who is soon to give birth — on Facetime. Most evenings I watch Netflix, browse Reddit or read the news — really, the same thing people back in the UK are doing. Or I work on the extra editing jobs I've taken on to pay off my hotel bill. It's exhausting, but I know it will be worth it when I get to the other side.

Days 10-12

Unexpectedly, everything starts to fall apart. An Irish friend living in Taipei delivers — unsolicited — a bottle of Jameson whiskey and numerous chocolate bars to the hotel reception and I am delighted. We have an

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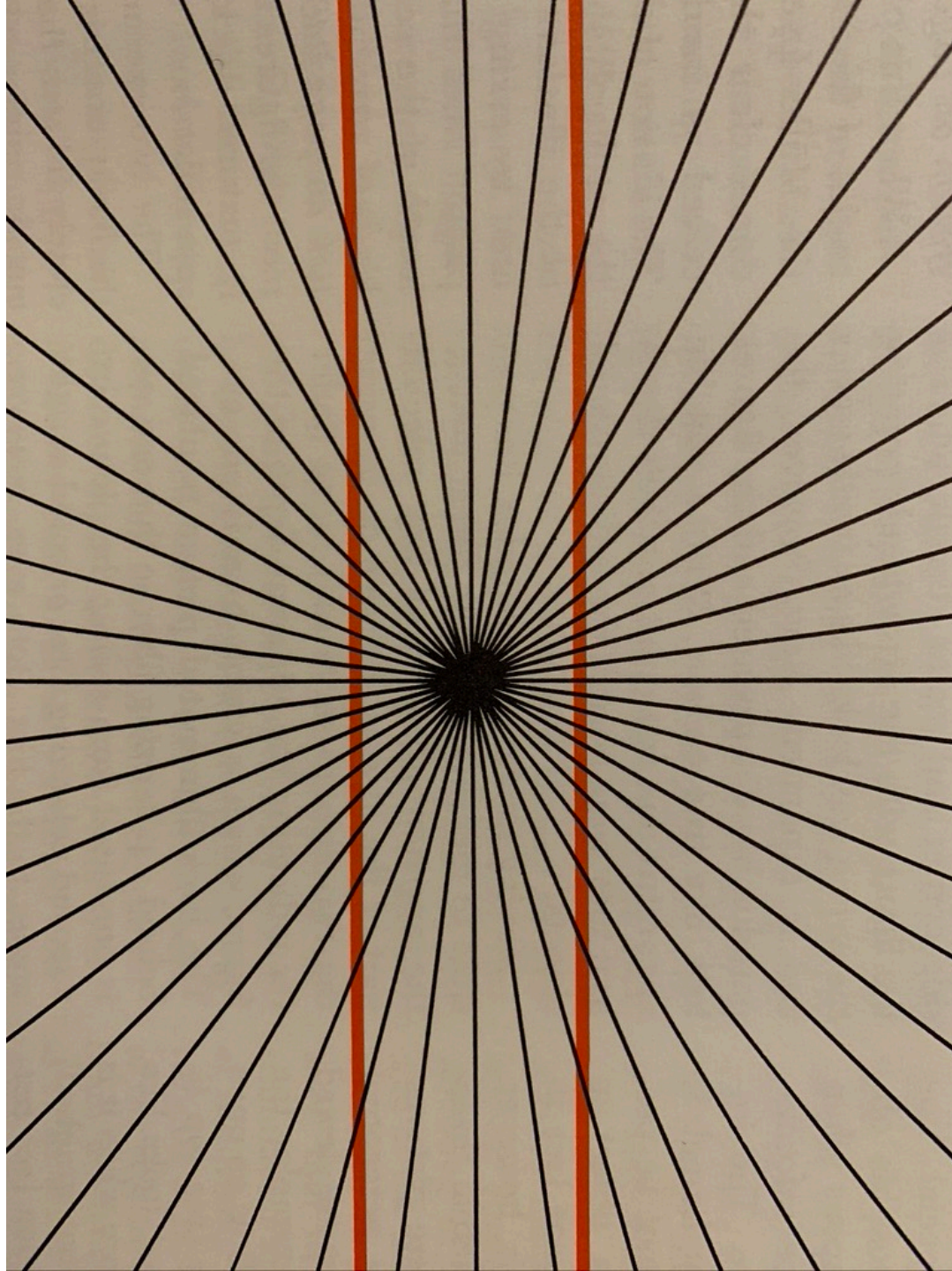
‘Between the conception and the creation’:
does the brain create a false reality?

The example of Illusions

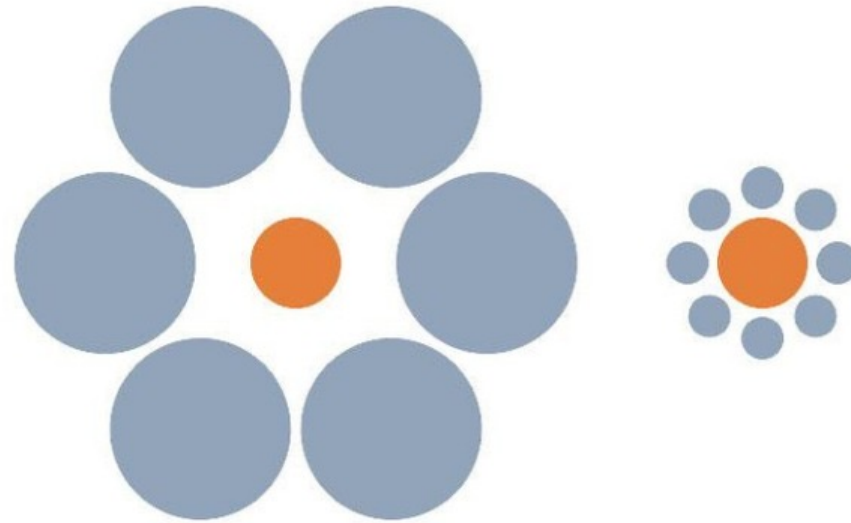
The brain ‘generates a reality’, making inferences about the external world that *may not conform to objective reality.*

The Hering Illusion

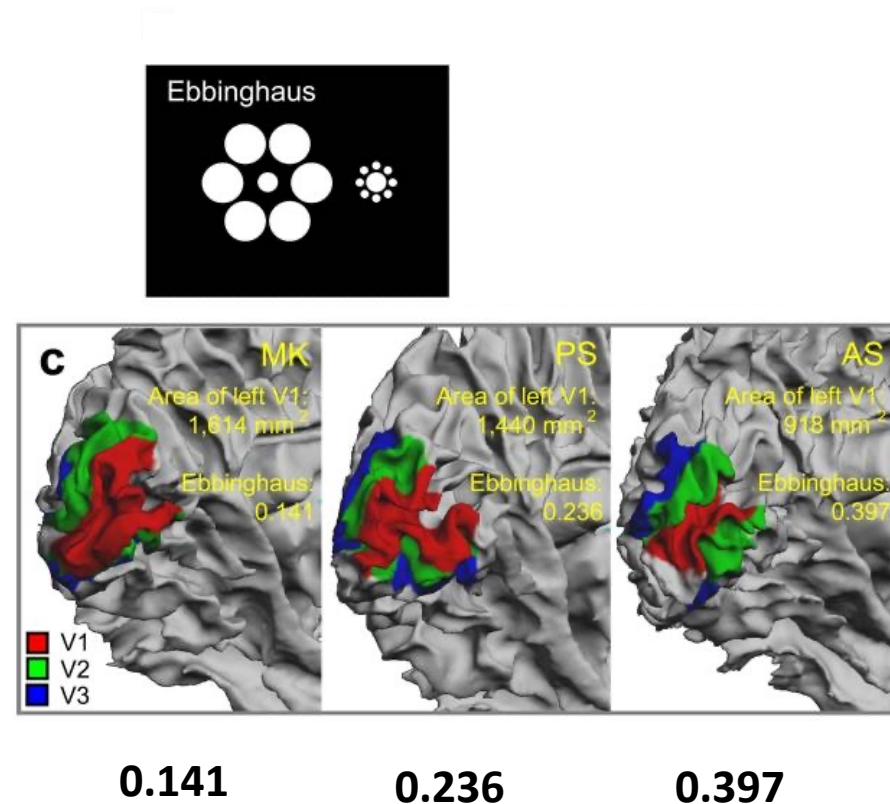
1861 Eward Hering



Ebbinghaus Illusion



Intensity of illusion: inversely correlates with visual cortical grey matter



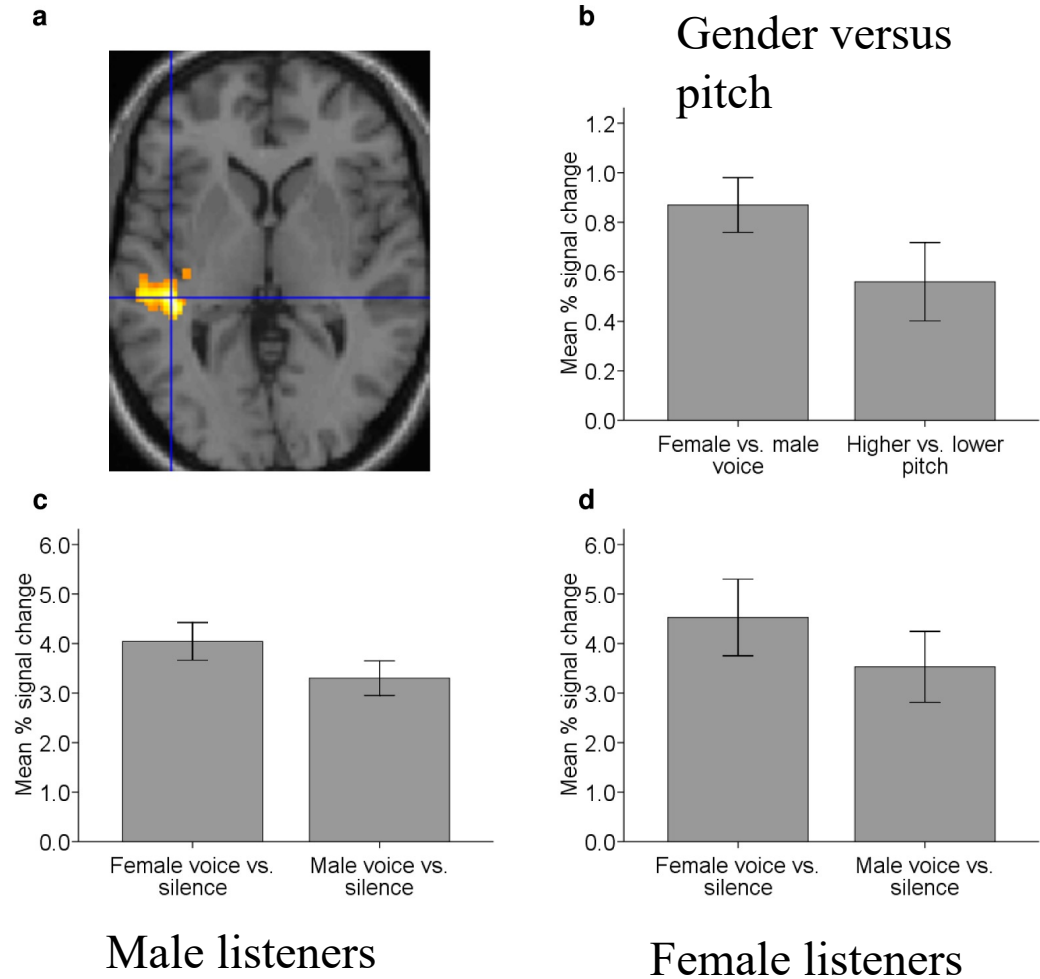
Mc Gurk illusion- what do you hear?

Eyes open Eyes closed



Copyright: Auditory Neuroscience.com

We all attend to female voices more than male voices.
They activate our brains better



“If you see anything
suspicious
See it, Say it, Sorted”

‘We hear what we expect to hear’

- example of tranquil visual context

Two visual scenes:

motorway (non-tranquil) and beach waves (tranquil)

Identical sounds in both

Motorway sound seems louder

Enhanced brain connectivity of ‘tranquil’ brain areas with auditory cortex in beach scene, despite identical auditory input.

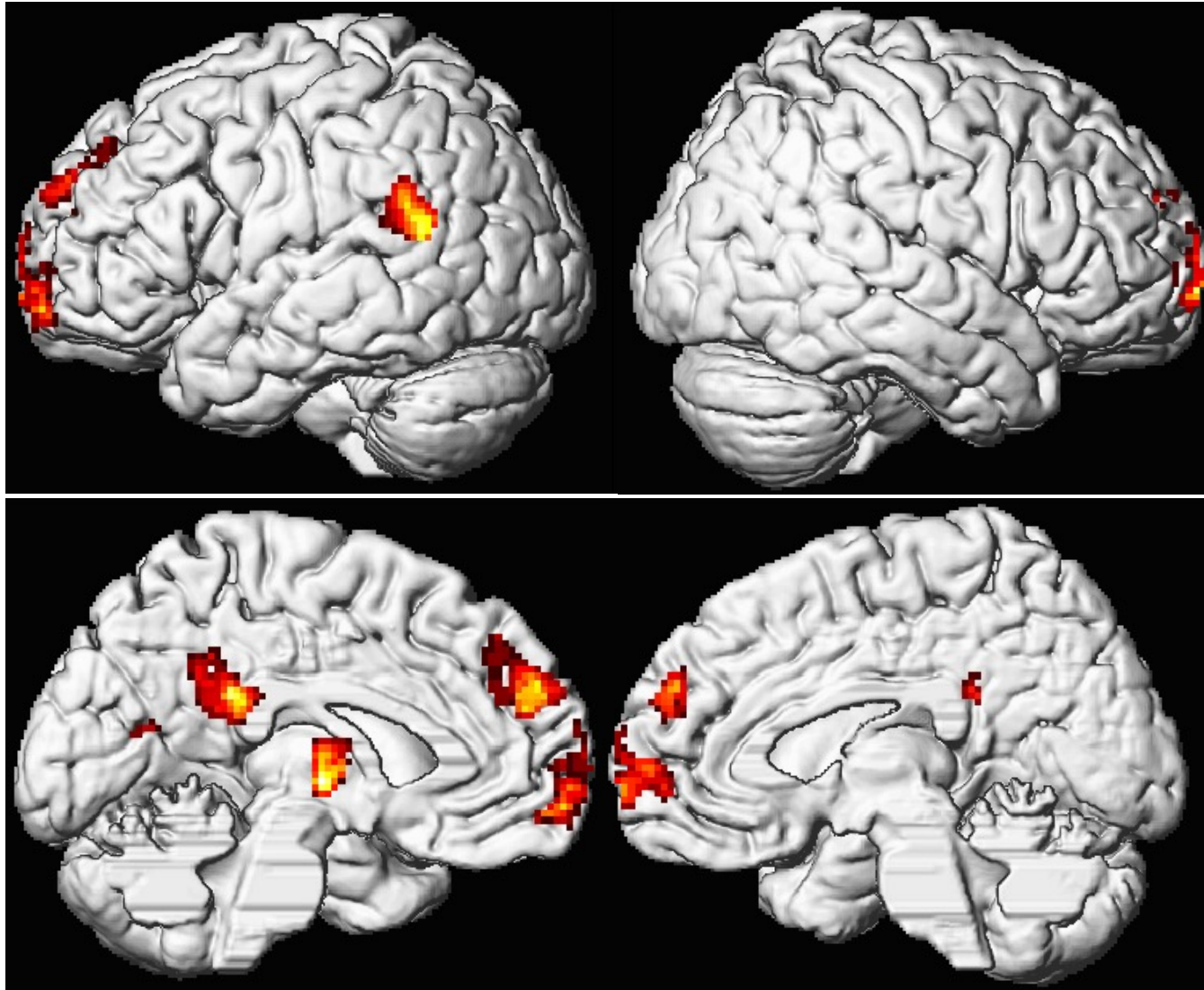


Hunter MD, Eickhoff SB, Pheasant RJ, Douglas MJ, Watts GR, Farrow TF, Hyland D, Kang J, Wilkinson ID, Horoshenkov KV, Woodruff PW. The state of tranquility: subjective perception is shaped by contextual modulation of auditory connectivity. *NeuroImage*. 2010 Nov 1;53(2):611-8.



Hunter MD, Eickhoff SB, Pheasant RJ, Douglas MJ, Watts GR, Farrow TF, Hyland D, Kang J, Wilkinson ID, Horoshenkov KV, Woodruff PW. The state of tranquility: subjective perception is shaped by contextual modulation of auditory connectivity. *NeuroImage*. 2010 Nov 1;53(2):611-8.

Brain regions more connected to auditory cortex in tranquil condition

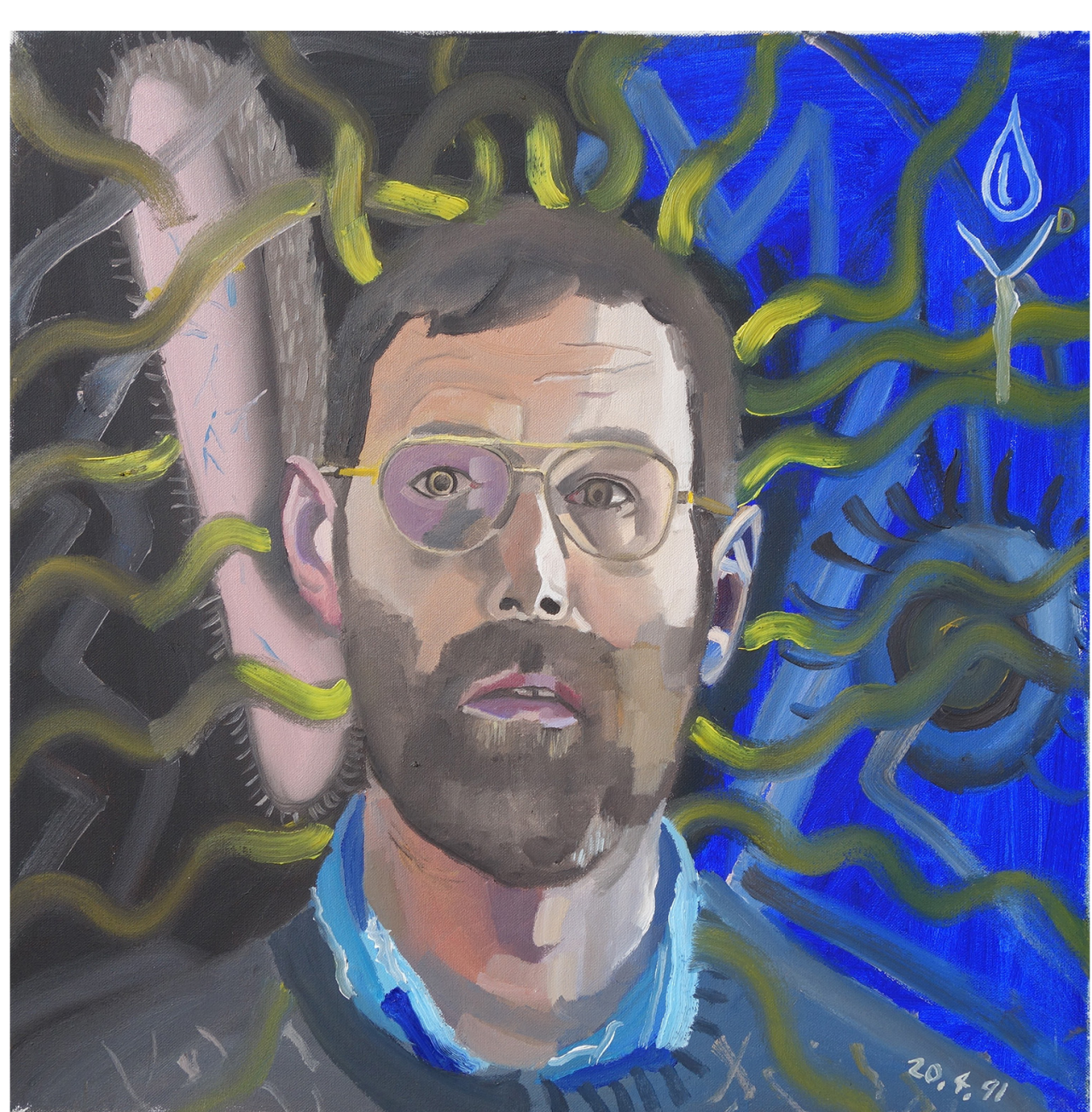


(n = 12; random effects; $p < 0.001$, uncorrected).

Hunter MD, Eickhoff SB, Pheasant RJ, Douglas MJ, Watts GR, Farrow TF, Hyland D, Kang J, Wilkinson ID, Horoshenkov KV, Woodruff PW. *NeuroImage*. 2010 Nov 1;53(2):611-8.

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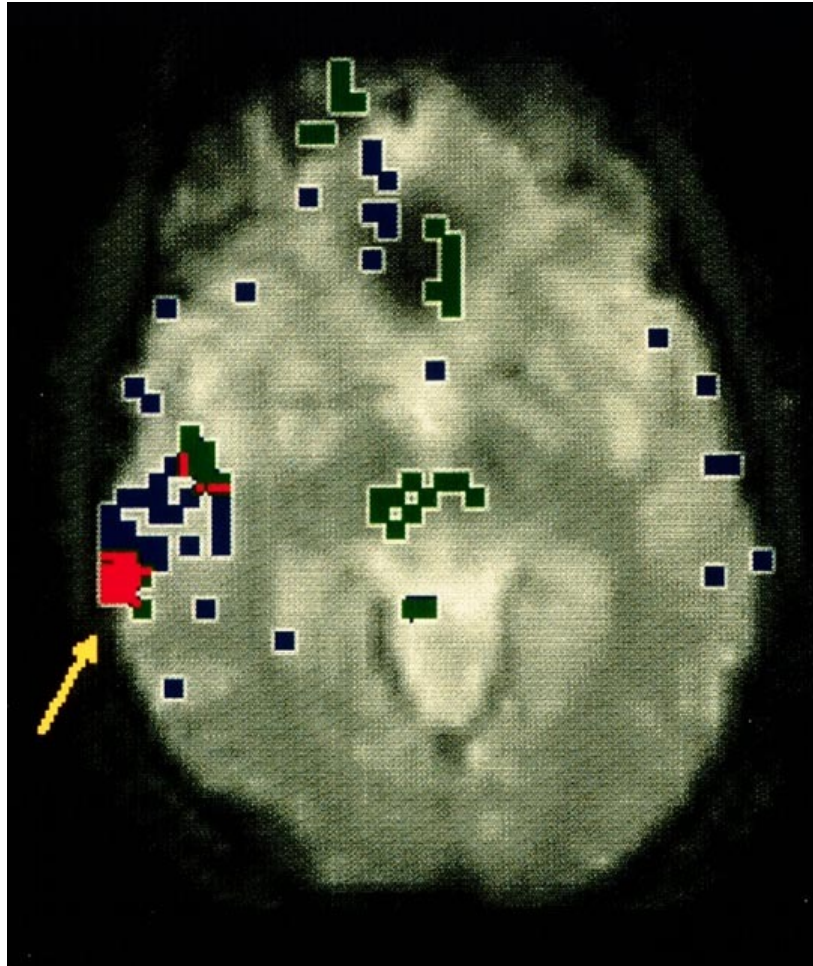


Self Portrait Series 20th April 1991

“The large rabbit ear is because I was confused and *extremely sensitive to human voices*, like a wild animal

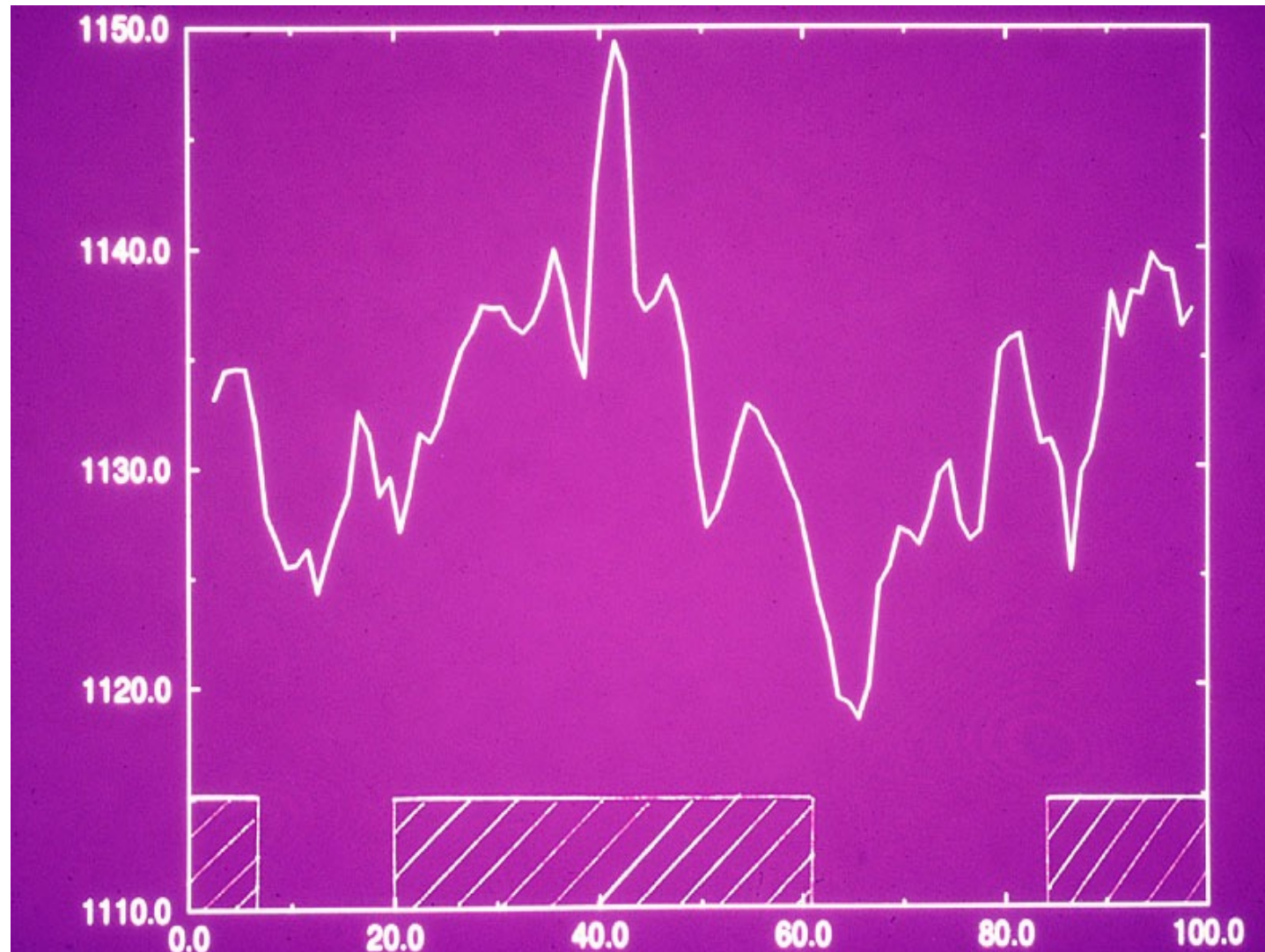
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We use the same hearing apparatus to experience auditory hallucinations
as we do to hear outside voices-
the first functional MRI study of auditory hallucinations



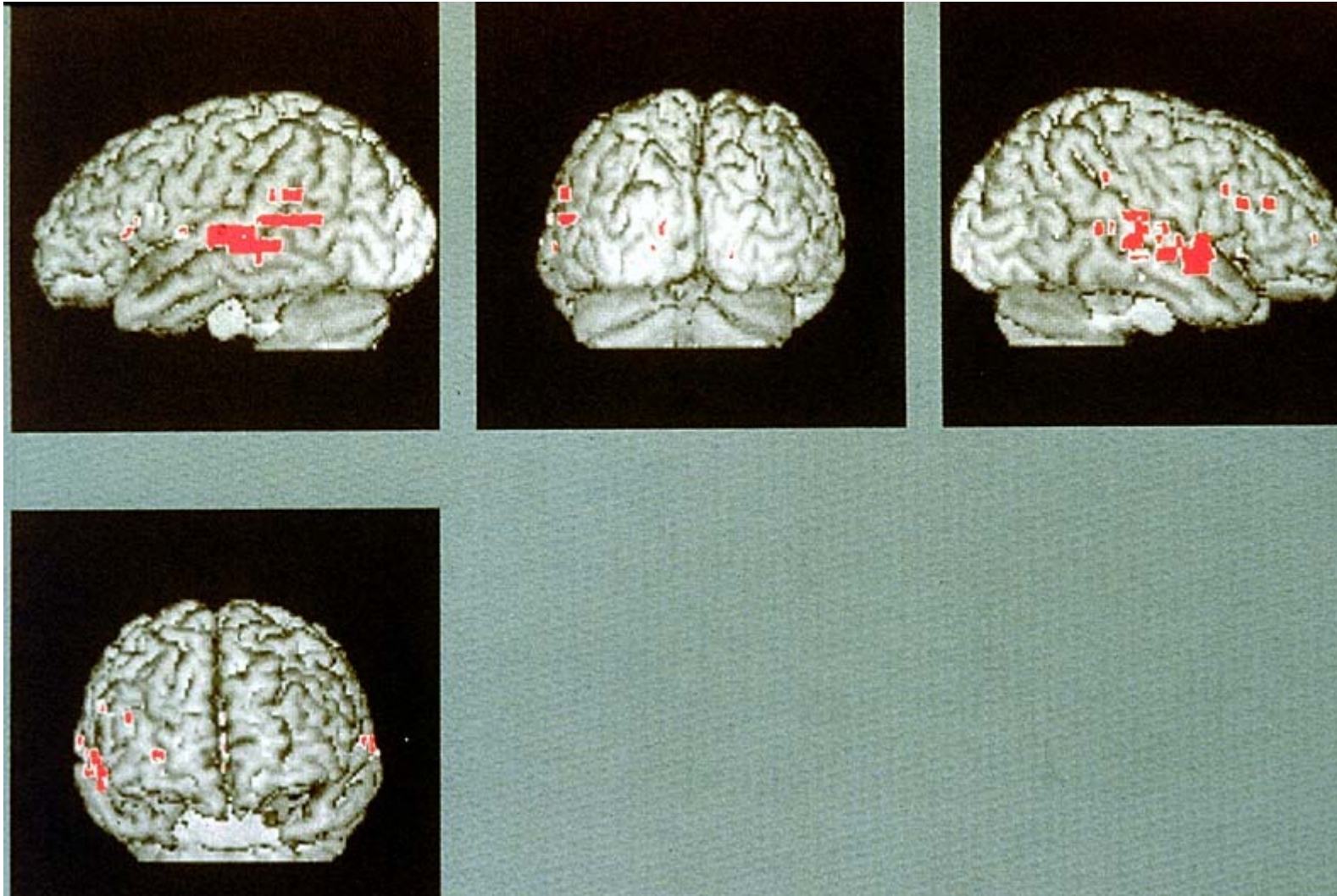
Woodruff et al., *Lancet* (1995)
14;346 (8981):1035.

Brain signal in auditory cortex across 3 episodes of auditory hallucinations



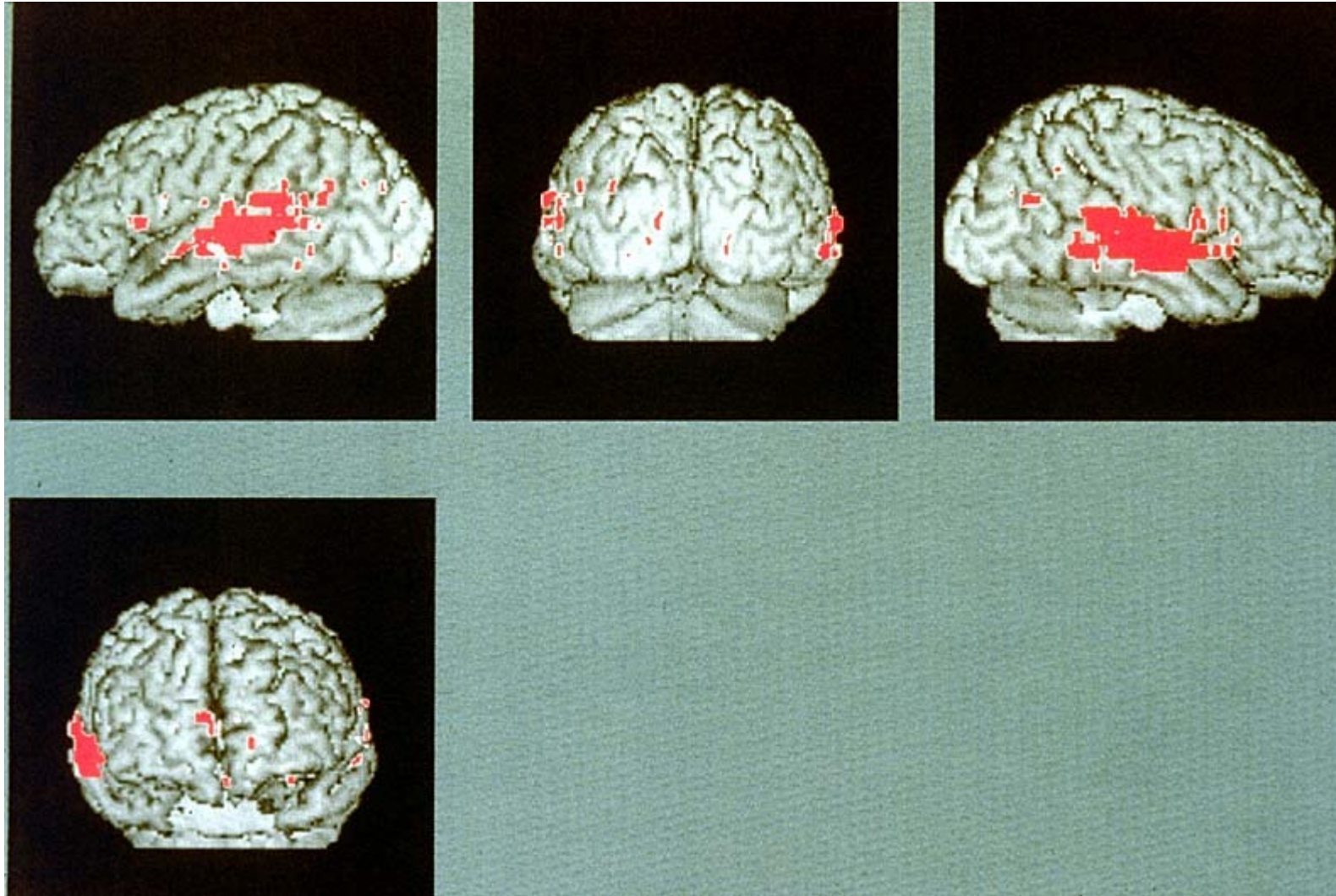
Woodruff et al., *Lancet* (1995) 14;346 (8981):1035.

External speech during auditory hallucinations



Woodruff PW et al., *The American Journal of Psychiatry*. 1997 Dec; 154(12):1676-82.

External speech after recovery- *no hallucinations*



Woodruff PW et al., *The American Journal of Psychiatry*. 1997 Dec; 154(12):1676-82.

The Saturation Hypothesis:

“Auditory hallucinations compete with external speech
for common neurophysiological resources”

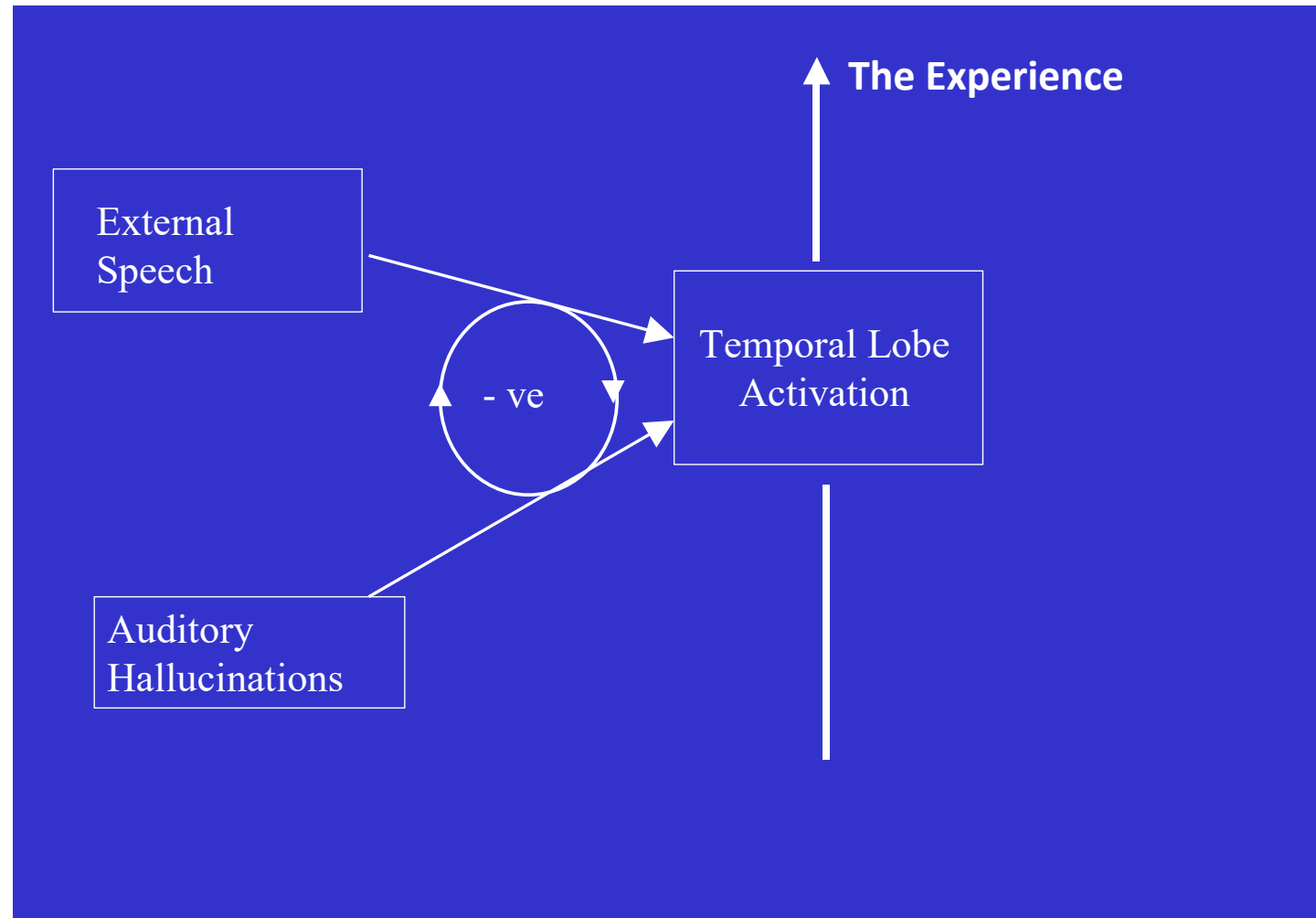
Woodruff PW et al., *American Journal of Psychiatry*. 1997 Dec; 154(12):1676-82.

Hallucination coping activities: from 100 patients with psychosis

Activity	Frequency	
	Better	Worse
	%	%
Music	30	3
Talk	63	1
Think	39	0
Shout	28	0

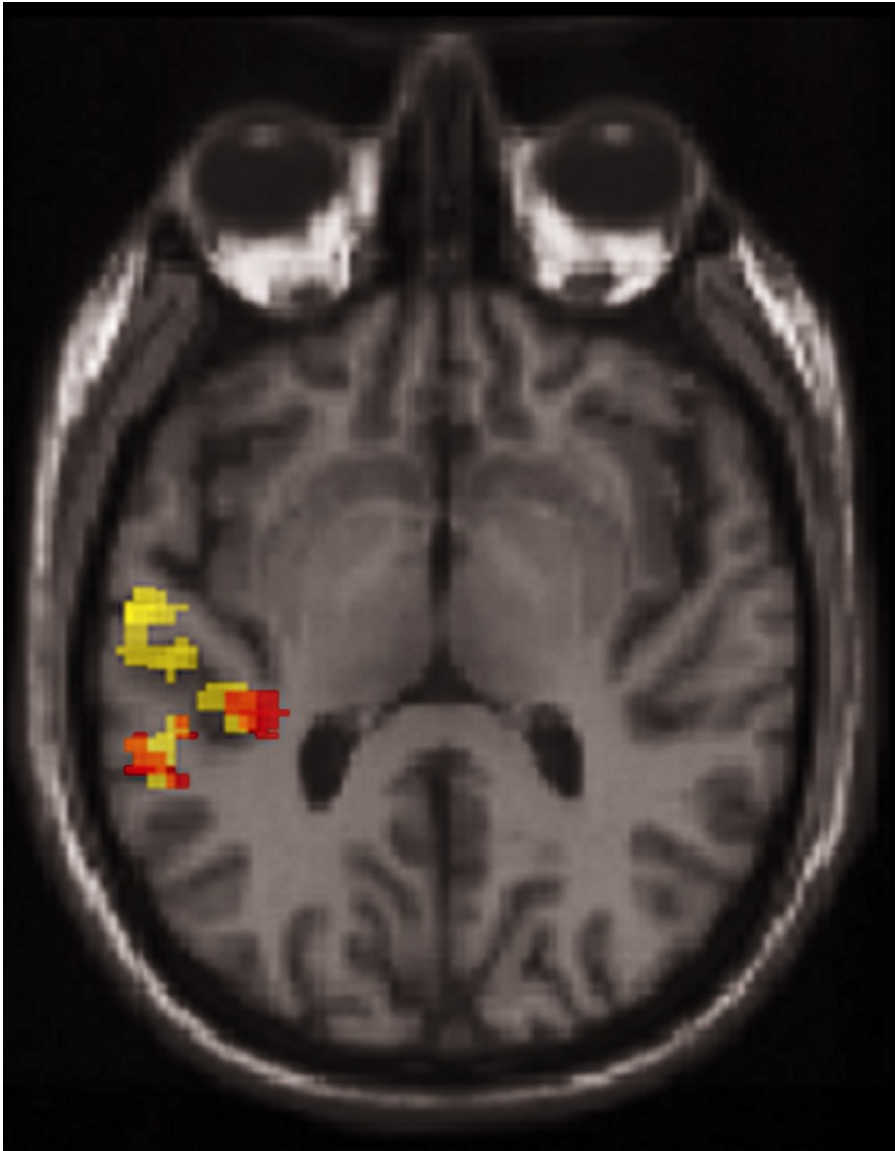
Nayani TH, David AS. The auditory hallucination: a phenomenological survey. *Psychol Med* 1996; 26: 177-89.

A model for temporal cortical activation by both external speech and auditory hallucinations



Woodruff PW. Auditory hallucinations: Insights and questions from neuroimaging.
Cognitive Neuropsychiatry. 2004 Feb-May;9(1-2):73-91.

The auditory cortex activates spontaneously to give energy to hallucinations



n = 12; rfx; $p < 0.001$, uncorrected

Hunter, Eickhoff, Miller, Farrow, Wilkinson, Woodruff. (2006)
Proceedings of the National Academy of Sciences, USA.

These observations support the notion that:

The *brain generates its own signal* responsible for hallucinations,

and that *signal is inhibited by external sensory input*.

So perhaps *external sensory input is needed to inhibit the natural tendency for hallucinations*

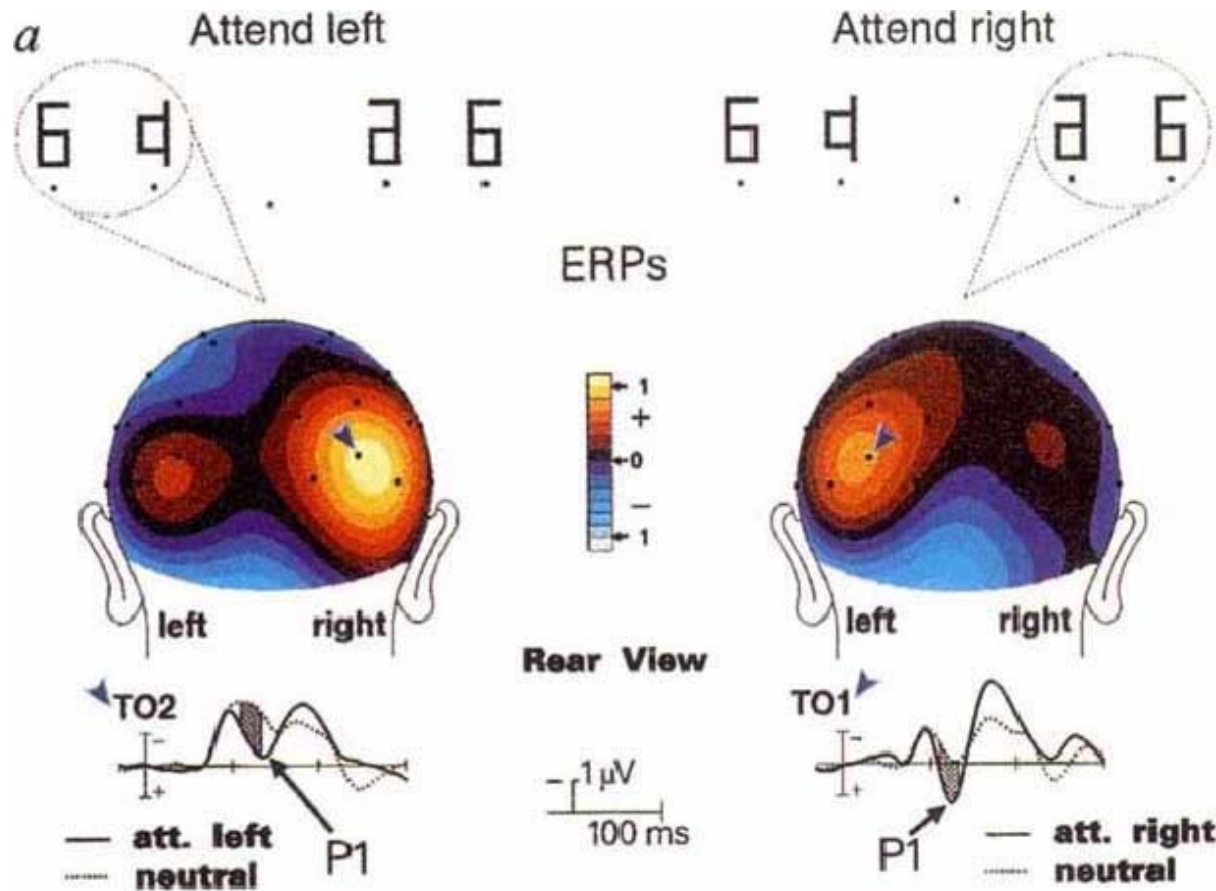
Selective attention

We can pick out features in the environment by focusing attention on them

e.g move from one conversation to another at a party
or look out for a red jacket in a crowd

This *selective attention has correlates in the brain*

Attention enhances sensory activity in the brain- example of visual attention

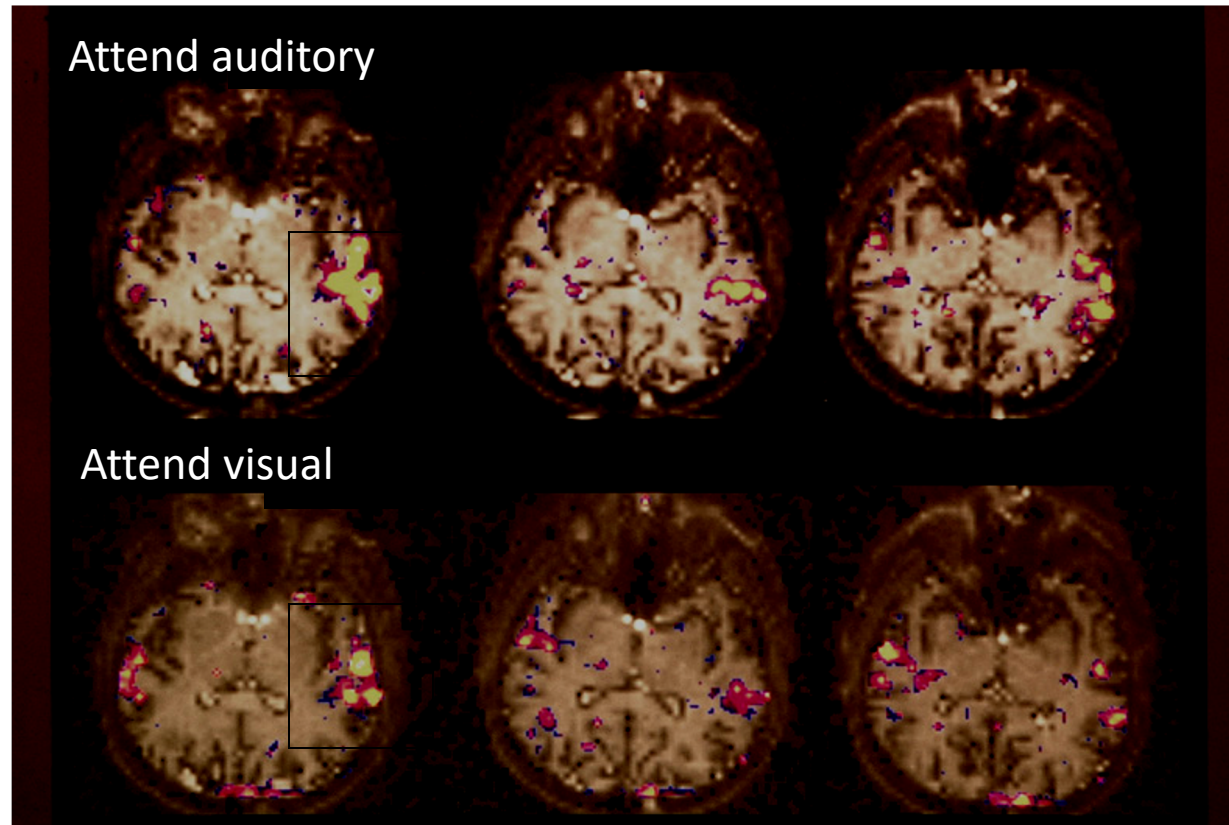


Heinz H.J., et al.,
(1994)

Combined spatial and
temporal imaging of
brain activity during
visual selective
attention in humans.

Nature, 372, 54306.

Attending to what you hear enhances the hearing brain
Attending to what you see enhances the visual brain



Woodruff PW, Benson RR, Bandettini PA, Kwong KK, Howard RJ, Talavage T, Belliveau J, Rosen BR.
Modulation of auditory and visual cortex by selective attention is modality-dependent. *NeuroReport*. 1996 Aug 12;7(12):1909-13.

Effects of attention on psychotic hallucinations

- Worse in morning and evening: 56%
- Worse on own: 80%
- ***Concentrating on voice*** started them: 38%
- Ability to stop them: 21%

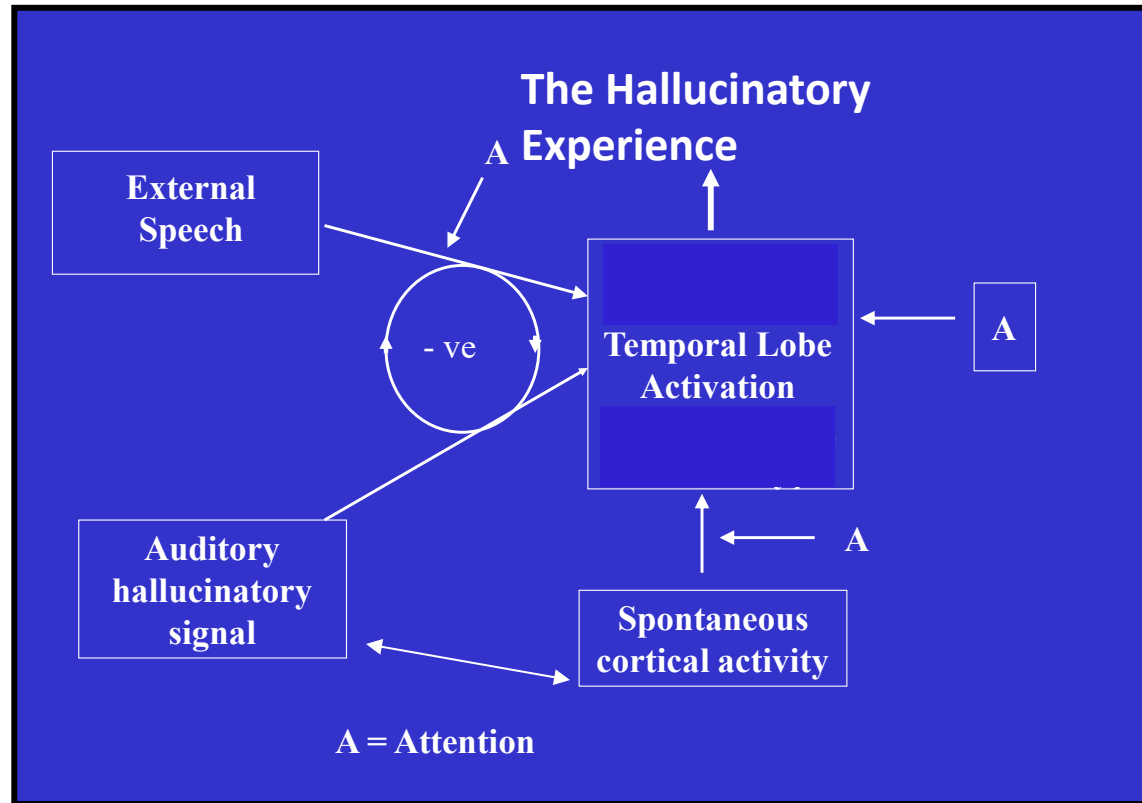
Effects of sensory deprivation- examples

In silence:

10.6% of 66 adults developed hallucinations:
*increased to 36.4 % when hallucinations
attended to*

Knobel, K.A.B. & Sanchez, T.G. (2009) *Cognitive Neuropsychiatry*, 14:1, 1-10, DOI: [10.1080/13546800802643590](https://doi.org/10.1080/13546800802643590)

A model for auditory hallucinations



Adapted from Woodruff PWR Cognitive Neuropsychiatry 2004

“Hearing voices”:

Auditory hallucinations as failure of
top-down *cortical inhibitory control*
of bottom-up (*intrinsic*) perceptual processes

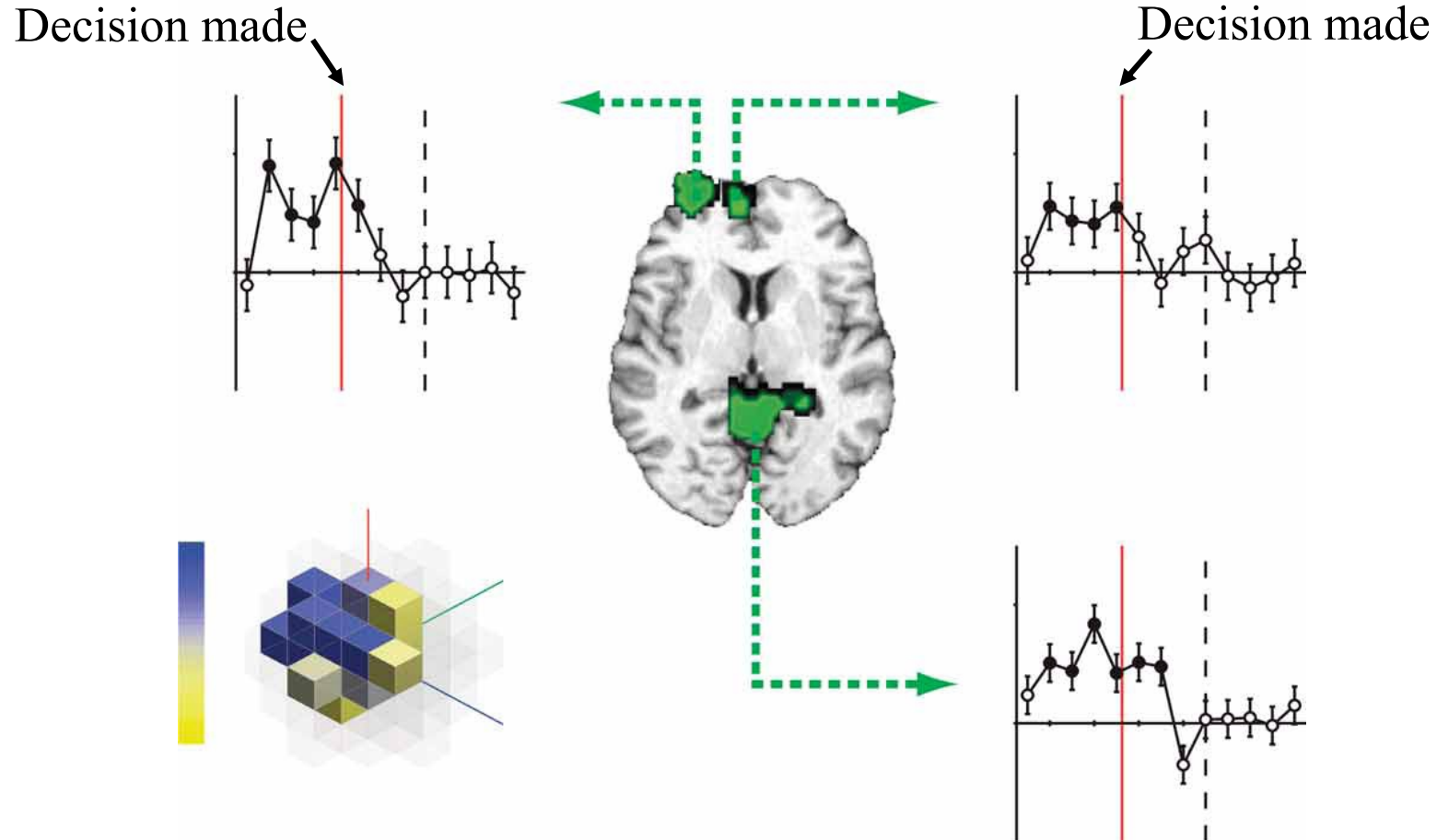
Hugdahl, K. (2009) *Scandinavian Journal of Psychology*. 50, 6, 553-560.

Self Portrait Series 27th June 1991



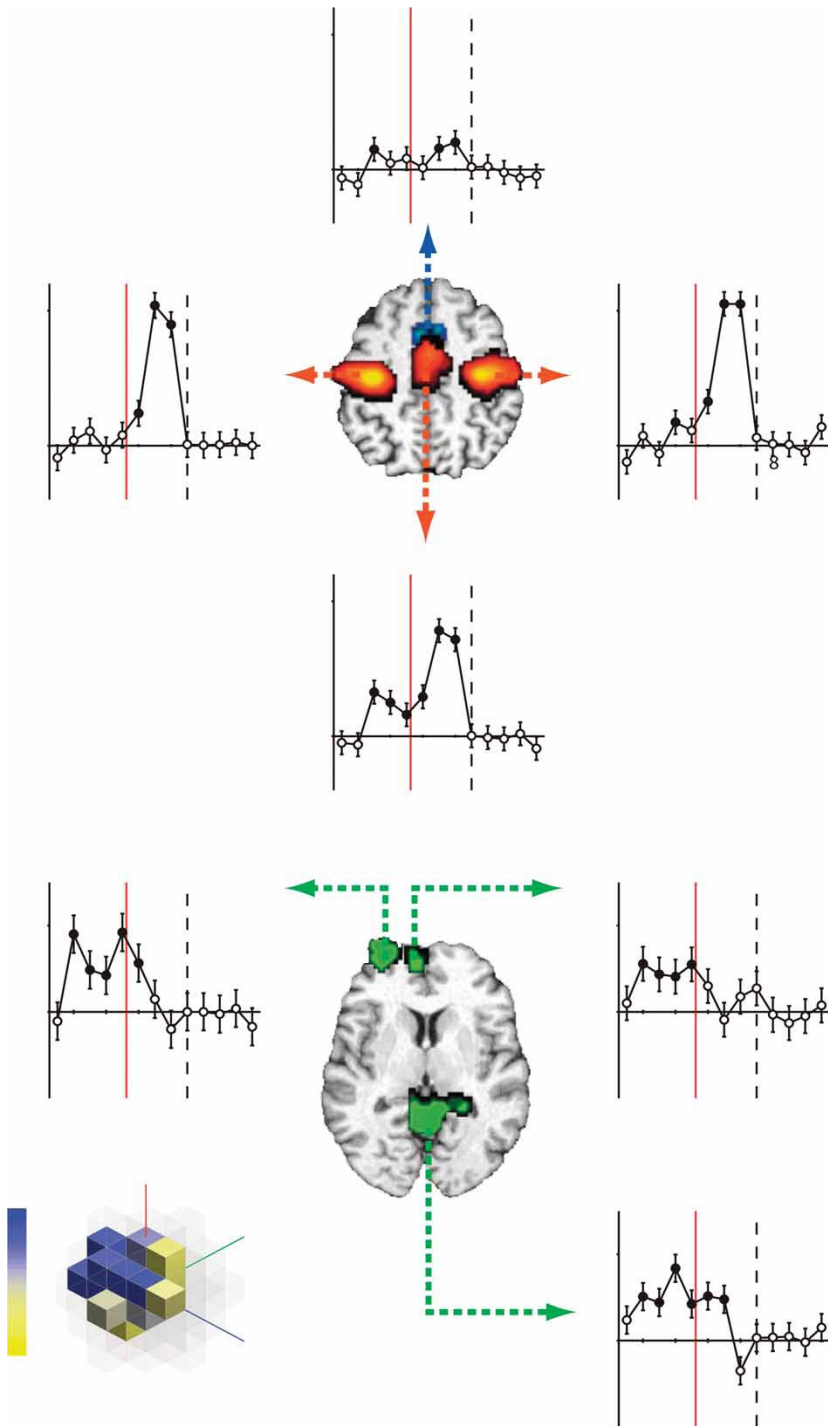
“I Make *crazy attempts at some sort of control* over what has become an impossible situation (*the man with the control stick*)”.

Are we free to make decisions?



Soon, C. S., et al., *Nature Neurosci.* 11, 543–545 (2008).

Are we free to make decisions?



Soon, C. S., et al., *Nature Neurosci.* 11, 543–545 (2008).

The ‘gap’ from ‘cognition’ to behaviour

“Between the idea
And the reality
Between the motion
And the act
Falls the Shadow

Between the conception
And the creation
Between the emotion
And the response
Falls the Shadow”

T.S Elliott, The Hollow Men

So far

- Psychotic experiences are common
- We all have the capacity for psychosis
- While asleep or during sensory deprivation, unimpeded by our higher cortical inhibitions, our experiences share features with psychosis (hallucinations)
- What we perceive depends on what our brains expect (e.g. illusions) or give attention to (e.g. hearing female voices or tranquil scenes)
- The default may brain prime our decisions.

What about the other characteristic of psychosis- *delusions*?

Outline

1. What do we mean by ‘Psychosis’?
2. Clinical Psychosis.
3. Epidemiology: the prevalence of psychotic phenomena in the general population.
4. Naturally occurring ‘psychosis’: hypnagogic and hypnopompic hallucinations; sensory deprivation; illusions.
5. How might psychotic phenomena arise? -
Neuroscience- sensory input, cognitive inhibition.
6. **The capacity to have strange beliefs.**
7. Vigilance and paranoia.
8. Implications for health and the human condition in society.
9. Conclusions.

6. ‘Idols of the mind’

can we differentiate weird thoughts from psychotic delusions?

“The human understanding is not composed of dry light,
but is subject to influence from the will and emotions,
a fact that creates fanciful knowledge;
man prefers to believe what he wants to be true”.

Francis Bacon: ‘Idols of the mind’ 1620
The New Organon, XLIX, p 44.

Examples of ‘strange beliefs’

- Alien abduction
- Witches
- Cults
- Magic
- Denials The Holocaust, Man on the Moon
- Vaccination conspiracies

Is the Earth Flat?

A discourse

“If the Earth is flat, Google Maps must be significantly incorrect”.

“Perhaps Google's algorithms curve the pictures taken from space to shape them like a sphere”.

The Flat Earth Society

<https://www.tfes.org>

‘Ghosts exist say 1 in 3 Brits’

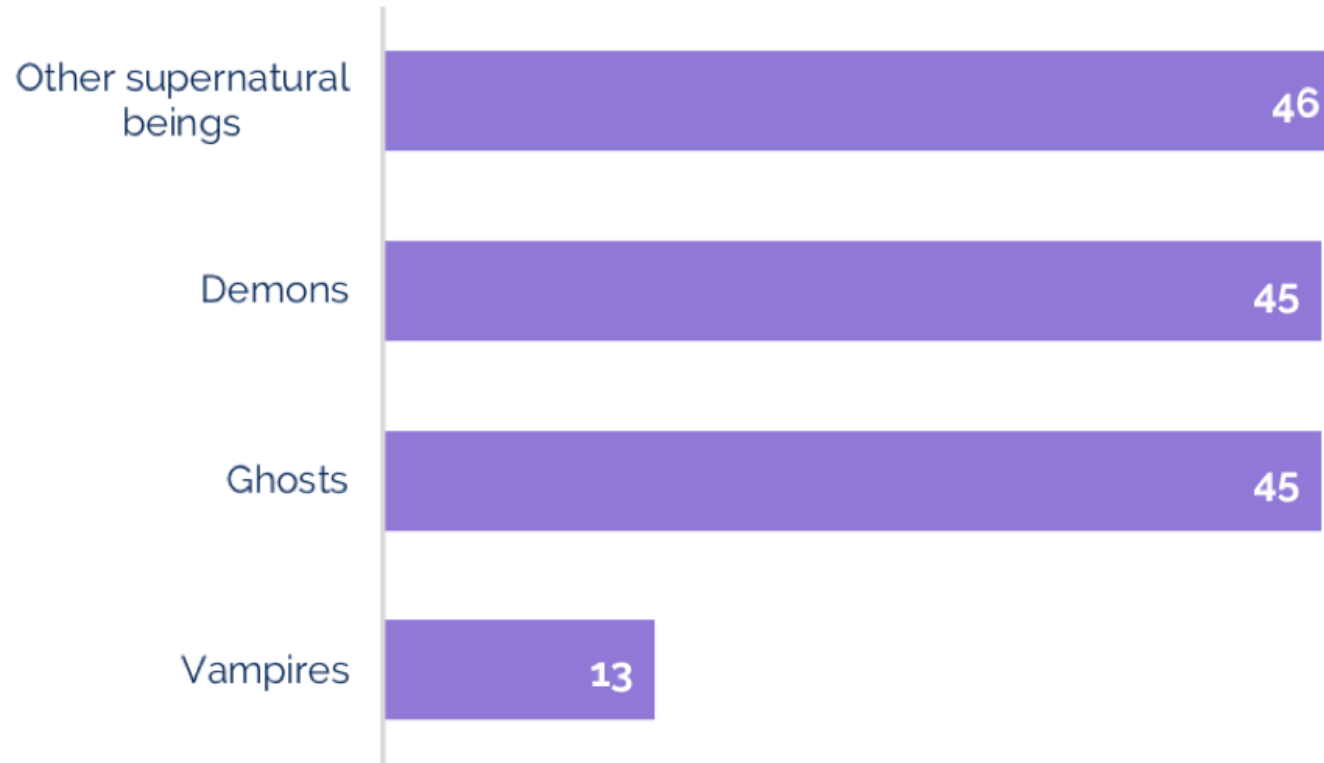
- 39% believe a house can be haunted
- 34 % of British people believe in ghosts
- 28% have felt the presence of a supernatural being
- 9% have communicated with the dead

<https://yougov.co.uk/topics/politics/articles-reports/2014/10/31/ghosts-exist-say-1-3-brits>

YouGov poll for the Sun October 31, 2014

More than four in 10 Americans believe in ghosts, demons, and other supernatural beings

Generally speaking, do you believe that each of the following do or do not exist?
(% who say each of the following "definitely exist" or "probably exist")



YouGov

September 30 - October 1, 2019

<https://today.yougov.com/topics/lifestyle/articles-reports/2019/10/21/paranormal-beliefs-ghosts-demons-poll>

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Even hard-science Physicists question how we think

In quantum mechanics we change the nature of matter by the very fact of observing it That leads to the question-
is there an objective reality at all?

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Cover image: Stephan Schmitz

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7. The advantage of vigilance: *a precursor of paranoia*

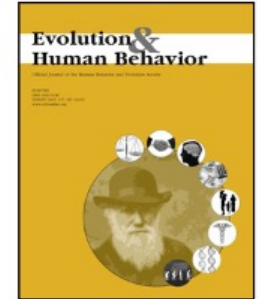
- Over 1.5 million years of evolution, homo sapiens has needed to be vigilant to survive predators
- Now it is essential to avoid being mugged or run over by a car
- We have unconscious (autonomic) alerting systems ('fight and flight') to direct attention, but limited cognitive attentional resources
- So as social animals we can share these - to allow other useful activities.



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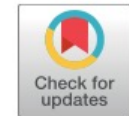


Mapping human vigilance: The influence of conspecifics

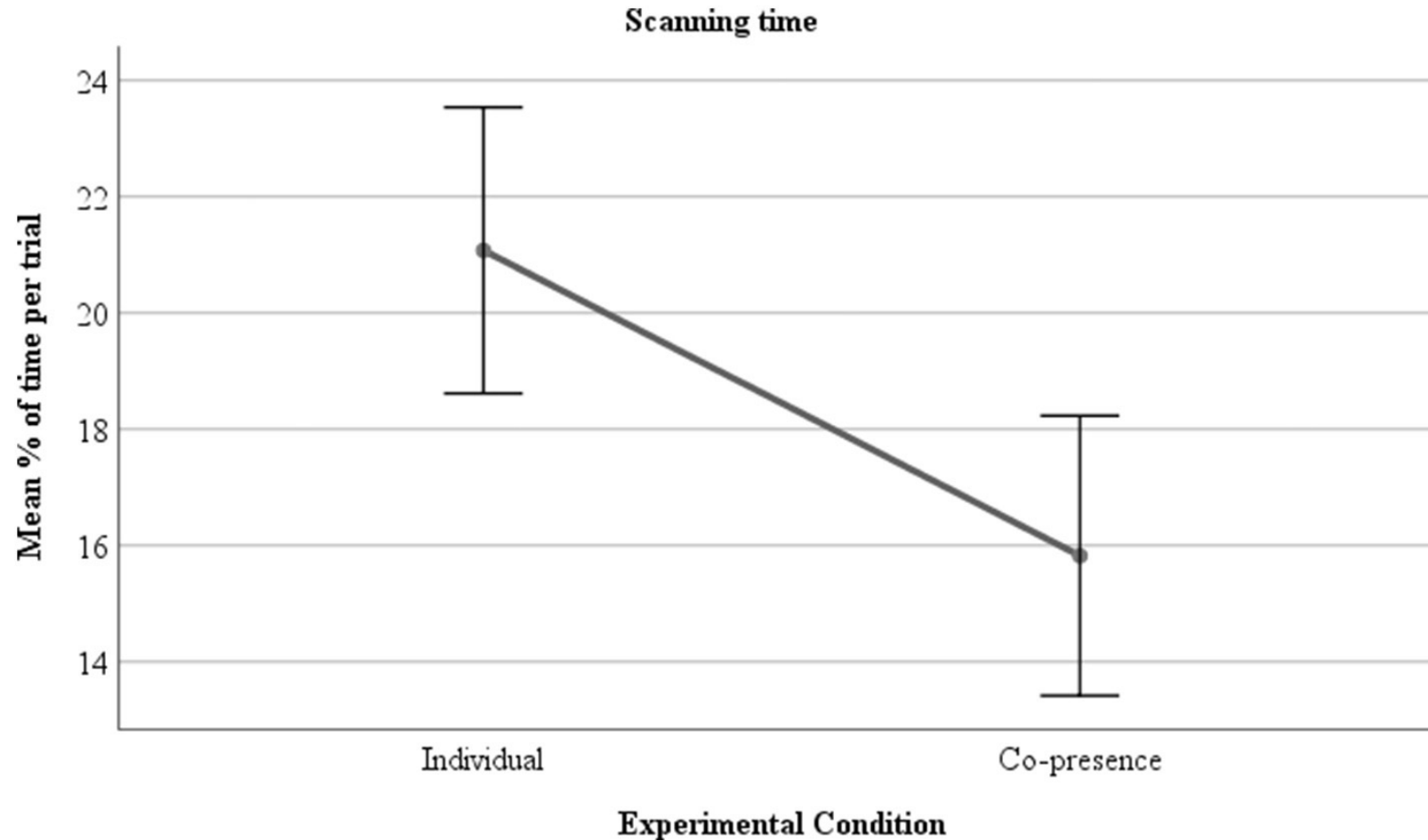
Nuno Gomes^a, Gün R. Semin^{a,b,*}

^a William James Center for Research, ISPA – Instituto Universitário, Lisbon, Portugal

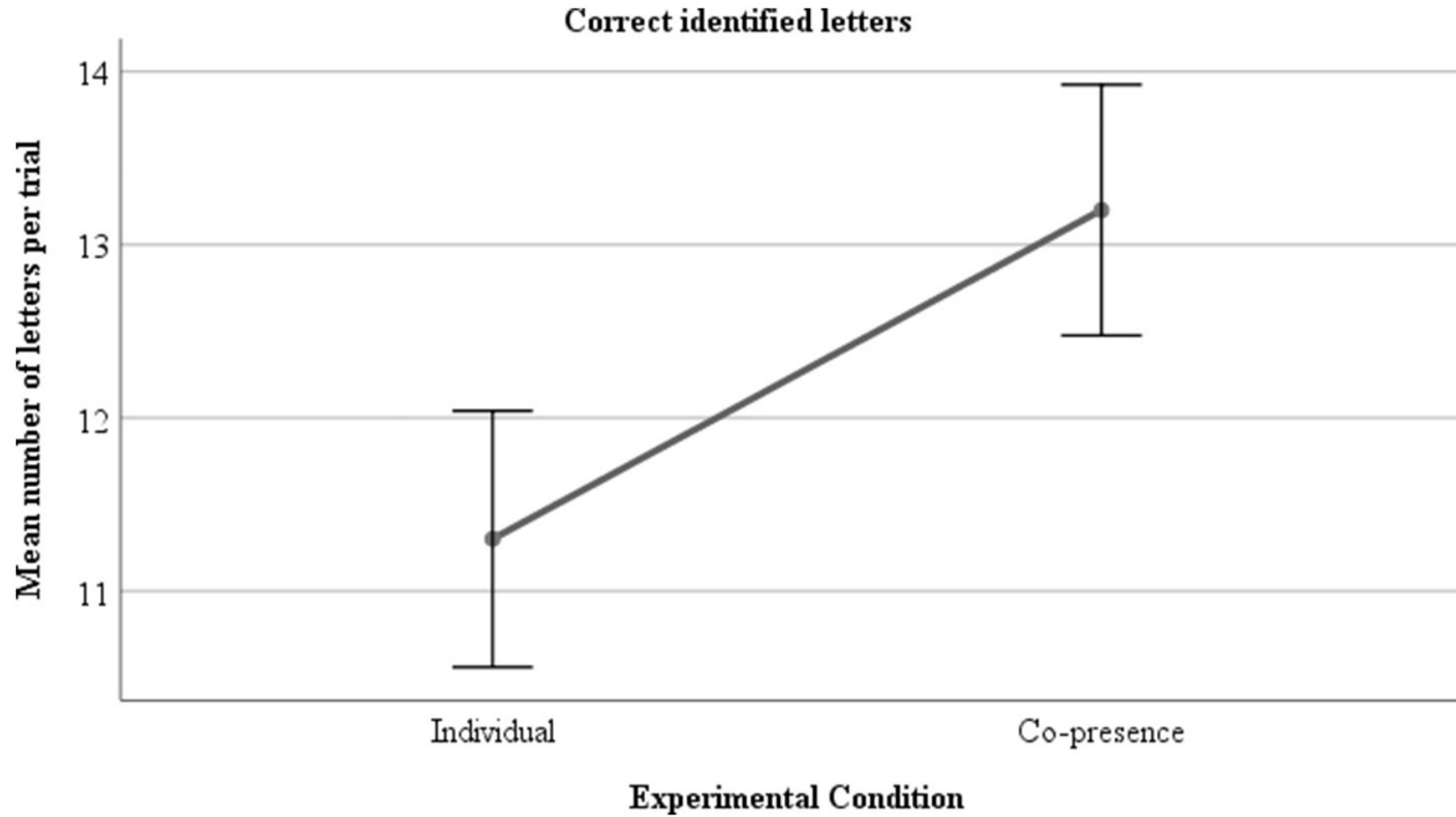
^b Faculty of Social and Behavioral Sciences, Utrecht University, Utrecht, the Netherlands



Vigilance is less in the presence of other people



Central attention is more (vigilance is less) in presence of other people



Is the cost of vigilance the potential to be paranoid?

When alone we are more vigilant

When with other (cooperative) people we are less vigilant, so we can concentrate on useful tasks

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8. Implications for health and society.

- Psychotic experiences are associated with risk for psychosis
- Important to identify causes and detect early
- May indicate risk factors that need assessment and treatment
- Loneliness and isolation is such a factor and is now considered a major mental health and public health issue
- This could help re-orientate how we approach clinical care and understand the balance of vulnerability versus resilience to psychosis.

Conclusions - 1

- We are *subjective* human beings
- We all perceive things differently BUT fundamental to our make-up is the *capacity to believe in things beyond reason*.
- In the absence of external signals, we gain *insight into the default brain*- which approximates to clinical psychosis.
- Psychosis does not arise de novo; but external sensory input and cognition need to *actively inhibit its expression*.

Conclusions - 2

- We may not be aware of it, but *our default mental state affects our whole experience of the world*;
- Hence our *propensity to believe weird things*, or things that do not seem weird but which have no basis in rational thought, but which are *held with absolute conviction without objective evidence*;

Conclusions - 3

- Sometimes our brains make robust but *incorrect assumptions* (illusions) but most often we seem unaware of our default mental state;
- *Except* perhaps on waking or falling asleep, or in the unusual situation of complete sensory deprivation.
- Even in science, we try to make sense of the world *through the refraction of our thoughts and senses* that often conflict with each other And may not make sense ...

Conclusions - 4

- Examples of psychotic thinking are *commonplace* in everyday life.
- That we do not think completely rationally;
- We are basically psychotic by default;
- But that tendency is inhibited to a greater or lesser degree,
- Hence, it is of societal relevance: to register how *thin the boundary is between sanity and madness*; to understand factors that lead from one to the other, and *to appreciate the frailty of rational thought*.

Conclusions - 5

Rather than ask "*why do* people develop psychosis?",
we should ask ourselves "*why don't we all* develop psychosis?"

“..... because after all,
We are all victims of insanity.”

Bryan Charnley

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The End