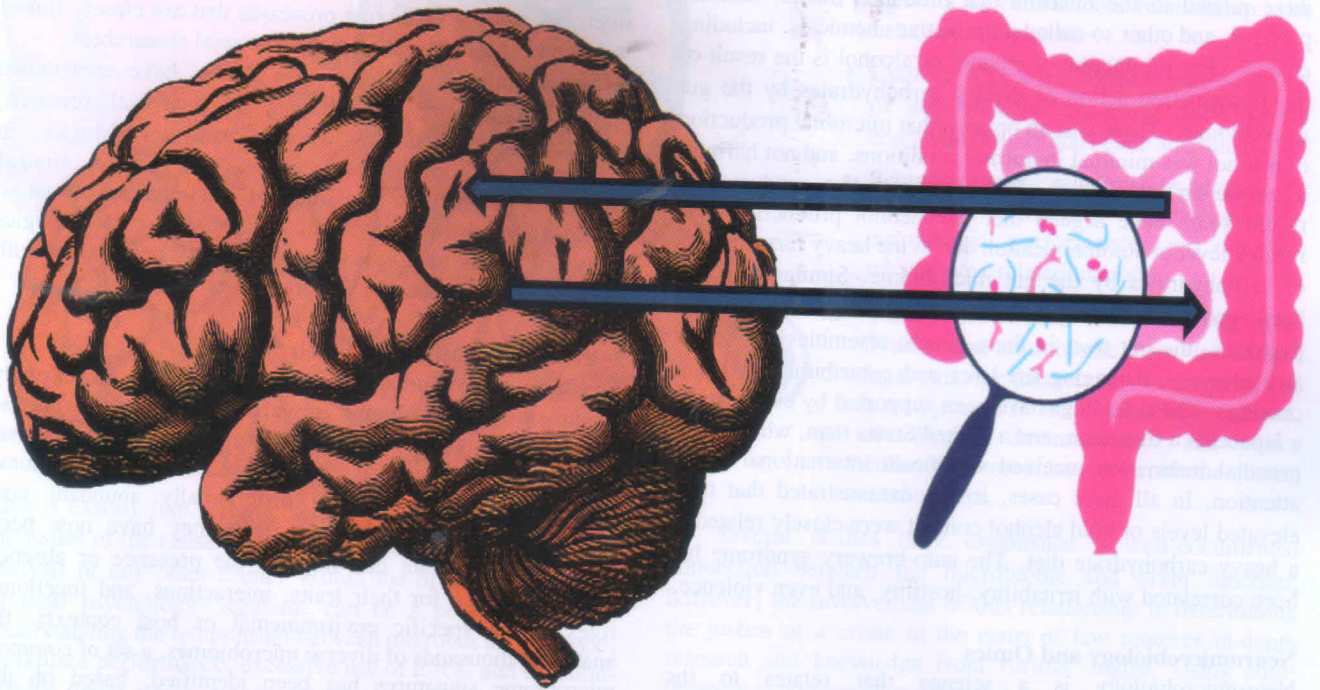


LEGALOME

When Microbes might Force you to Commit Crimes

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Gut-Brain Axis Connection

“Of course, if it is the bad bacilli that make men murderers and robbers, they should not be punished. A man is not responsible for what his bacilli force him to do. He is acting under physiological distress and might be a good man if he had a better set of microbes in him.”
Editorial, “The Bacillus of Crime” — *The Springfield Daily Leader*, 1910

THE above quote appeared in a newspaper in the USA during the early 20th century to propose the idea that criminal behaviour in humans originates from biological disturbances, and to support this, it was said that the criminogenic microbes present in the gut tract of humans were responsible for developing such behavioural patterns. This kind of concept was advocated by a few physicians and scientists earlier, saying that there can be a microbe called *Bacillus criminalis* present in the gut tract, which may be responsible for causing neuropsychiatric diseases, and under the influence of this disorder, there can be a change in psychological behaviour leading to committing any crime.

Just for example, the New York court, in its judgment, dismissed the driving case while intoxicated charges against a defendant who claimed that her elevated alcohol content in the blood was not due to oral consumption of alcohol but due to an Auto-Brewery syndrome. A similar judgment was given by the Belgian court in 2024, and the explanation given was

similar. In Auto-Brewery syndrome, because of the presence of a high density of selected criminogenic microbiota (*Candida spp.*, *Klebsiella pneumonia*), in the gut tract, it converts dietary carbohydrates into absorbable ethanol through the fermentation process. It produces alcohol at intoxicating levels, which is sufficient to create disorder in the cognition and behaviour of humans. To support this, the defendants provided ample evidence that their high postprandial blood alcohol content was a product of carbohydrate load, unrelated to any oral alcohol consumption. A lot of research is now being focused on auto-brewery syndrome to find out that whether the human microbiome is a crucial factor controlling brain function and behaviour.

Recently published papers in the *Microbial Biotechnology* journal discuss the potential of microbial knowledge to improve human welfare, reduce suffering, and address the grand challenges of our time, including a mental health crisis. Therefore, the concept of legalome, i.e., the application