Bleary-eyed in the dawn light at 6.55a.m., I paced along the glazed-brick corridor toward Cedar Ward, in the hinterland of a Victorian mental hospital. My arrival at the nurses’ station drew little response from night staff concentrating on their final task before handover, muttering as they scribbled, each completed patient’s record added to a stack on the desk. Then charge nurse Archie breezed in, punctuating the writing frenzy. ‘That was one hell of a shift’, exclaimed June; ‘They’ve been up all night, going berserk - one after the other’. Details emerged of an early hours verbal joust between Albert and Lizzie, Kristos repeatedly wandering naked from his dormitory and high-pitched expletives from Martha about an alleged nocturnal theft, the rumpus culminating in Terry lashing out at Albert and Lizzie being banished to the quiet room after tearing curtains from the rail. Remarkably to me, these events were collectively blamed on the full moon.
The power of the Moon: your view

<table>
<thead>
<tr>
<th>(a) The Moon can affect human behaviour</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b) The idea is a myth</td>
</tr>
<tr>
<td>(c) Not sure</td>
</tr>
</tbody>
</table>
Moon worship

Ancient Egyptians worshipped Ra as sun god and Thoth as moon god.

Eventually the Sun became dominant: shift to solar calendar and realisation that moonlight is borrowed.

Thoth was originally male but later feminised, creating dualism of male reason and female passion.

Greek lunar goddess Artemis was protector of virginity and childbirth.
Lunar month
Classical scholars on lunacy

Hippocrates (c460BC-377BC)

Galen (130-200AD)
The Middle Ages: astrology and alchemy

Paracelsus
(1493-1541)
It is the very error of the moon
She comes more nearer earth
than she was wont
And makes men mad

Othello
William Shakespeare
Astrology in medicine

Only astrologers are fit to study medicine, and a medical man without astrology is like a lamp without oil.

Nicholas Culpeper (1655): Astrologicall Judgement of Diseases

For a doctor to doubt the validity of astrology was quite as unusual as for a priest to doubt the authority of the Church.

Ralph Major (1954): History of Medicine

That astrology survived so long seems less absurd when it is remembered that man knew more about the macrocosm and the laws governing the heavenly bodies than about the microcosm and the workings of his own.

Hunter & Macalpine (1963): Three Hundred Years of Psychiatry
Scientific Enlightenment

Galileo (1564-1642)

Isaac Newton (1642-1727)
Medical colonisation of the mind

William Harvey (1578-1657)
heart pumps blood; ‘soul’ evicted

Anton von Leeuwenhoek (1632-1723)
microscopic observations of body chemistry

Thomas Willis (1621-1675)
studies of the nervous system

Demise of humoural medicine
Mesmer
(1734-1815)

Manipulating the universal ether
Lunacy in law

Interpolating dementia...is that which is usually called lunacy, for the moon hath a great influence in all diseases of the brain, especially in this kind of dementia; such persons commonly in the full and change of the moon, especially about the equinoxes and summer solstice, are usually at the height of their distemper.

Sir Matthew Hale, History of Pleas of the Crown (late 17th c)

A lunatic, or non compos mentis, is one who hath had understanding, but by disease, grief or other accident hath lost the use of his reason. A lunatic is properly one that hath lucid intervals; sometimes enjoying his senses and sometimes not and that frequently depending upon the changes of the moon.

Sir William Blackstone, Commentaries on the Laws of England (1765)
Early alienists on lunacy

It is a well established fact that insanity is a disease of the mind upon which the moon exercises an unquestionable influence.

M Daquin (1791): *Philosophie de la Folie*

An opinion which has existed for ages, which is spread abroad through all lands, and which is consecrated by finding a place in the vocabulary of every tongue, demands the most careful attention of observers.

J-E Esquirol (1838): *Maladies Mentales*
Among the uneducated, the most remarkable opinion which still continues to maintain its ground is that of the moon’s influence on insanity. When patients are conveyed to the hospitals, their friends, especially if they come from the country, generally state them to be worse at some particular period of the moon.

_Familiar Views of Lunacy and Lunatic Life_ (anonymous medical superintendent, 1850)
Friedrich Koster
Marsberg Asylum, Germany

Publications on manic-depressive symptoms and lunar cycles

On the influence of the Moon on periodic insanity
*Allgemeine Zeitschrift für Psychiatrie* (1859-1861)

*Patterns of Periodic Insanity and Nervous States*
(Bonn, 1882)
Full moon and disturbance on the wards

Has the moon really anything to do with insanity? My opinion is, that many lunatics will remain quiet in bed during darkness, but will be mischievous and refractory if there is light enough.

George Savage & E Goodall (1907): Insanity and Allied Neuroses: Practical and Clinical Manual
Male ward, Porirua Lunatic Asylum, New Zealand
Modern lunacy research
A SEARCH FOR LUNACY

LOREN J. CHAPMAN, Ph.D. 1

Since early recorded history there has been a belief that psychosis is related to the phase of the moon. The literature on this belief is extensive, but has relied primarily on anecdotal observations. Both Kelley (1) and Oliven (2) have reviewed the literature. Statements about such a relationship are attributed to such diverse sources as the Bible, Shakespeare, the Malleus Maleficarum, Blackstone's commentaries on English law, and various clinical observers as well as folklore. The full moon has most often been implicated, but the new moon has also been mentioned by some writers.

In recent years there has been little new in the way of investigation of the lunar hypothesis. One of the few professional workers concerned with it has been Ravitz (3-5) who has primarily been interested in relating changes in emotional potential of the human body to both emotional changes and to lunar phases. In support of the lunar hypothesis he has reported several occasions on which psychotic symptoms increased during either the full or new moon.

There has apparently not been previously any attempt to investigate the lunar hypothesis by means of group data and statistical tests. The present report describes two attempts to determine if such a relationship exists.

PROCEDURE

The hypothesis was investigated for four different groups of patients. Group 1 consisted of functional psychotics for whom dates of admission to a psychiatric hospital were tabulated. Groups 2 and 3 were schizophrenic patients for whom episodes of violence were tabulated, and Group 4 were paralytics for whom episodes of violence were tabulated.

Group 1 consisted of patients admitted to Cook County Hospital Mental Health Clinic, an inpatient diagnostic center. Patients are hospitalized there for short periods before being transferred to other institutions. The hospital is required by law to admit without delay any person needing hospitalization for psychotic reasons, and overflow is handled by transfer of previously admitted patients to other hospitals. Clearly this hospital is better suited for an investigation dealing with dates of admission than is a hospital which keeps a waiting list.

All admissions were tabulated by date for the period December 31, 1956, to May 28, 1957, a period which included five complete lunar months. The five dates of occurrence for each of the four phases of the moon were obtained from the World Almanac.

Strictly speaking, the four phases each occur only for an instant each lunar month. Therefore, when an observer reports that an event occurred at a certain phase of the moon, it is unclear whether he means that it occurred during the period of time between the phase named and the occurrence of the next phase, or if he instead is referring to a brief period of time on either side of the specified phase. Therefore, the present data were analyzed with respect to both interpretations.

Altogether there were 3,231 patients admitted during this 140-day period, i.e., an average of 21.7 patients per day. Admissions on Sundays and holidays tended to be lower, the average number of admissions on the 21
I see the bad moon rising
I see trouble on the way
I see earthquakes and lightning
I see bad times today
Don’t go around tonight...
There’s a bad moon on the rise
Homicides and the Lunar Cycle: Toward a Theory of Lunar Influence on Human Emotional Disturbance

BY ARNOLD L. LIEBER, M.D., AND CAROLYN R. SHERIN, PH.D.

Data on homicides were analyzed by computer to determine whether a relationship exists between the lunar synodic cycle and human emotional disturbance. A statistically significant lunar periodicity was demonstrated for homicides committed in Dade County, Fla., over a 15-year period. A similar, but nonsignificant, periodicity was found for homicides occurring over a 13-year period in Cuyahoga County, Ohio.

The concept of lunar influence on human and animal behavior has intrigued mankind for thousands of years. Observers in almost every age known to man have attempted to correlate the positions of the moon in relation to the Earth and sun with various terrestrial phenomena, but scientific evidence has been lacking (1). Today it is well known that the moon, through the effects of its gravitational forces on the Earth, is the major regulator of tidal changes in our great bodies of water. Recent meteorological evidence (2–10) suggests that a tidal effect exists in certain atmospheric phenomena of the Earth as well.

If one considers the human organism as a microcosm comprised of essentially the same elements as and in similar proportions to those of the Earth's surface (approximately 80 percent water and 20 percent organic and inorganic minerals), one could speculate that the gravitational forces of the moon might exert a similar influence upon the water mass of the human microcosm. One of us (A.L.L.), drawing on evidence from various medical and nonmedical scientific disciplines, theorizes that the moon, via the effects of its gravitational forces on the human organism, causes cyclic changes in water flow among the fluid compartments of the body (intracellular, extracellular, intravascular, and intraluminal), as well as changes in total body water, resulting in what might be termed "biological tides" (11). These changes, together with associated electrolyte and hormonal shifts, may set the stage for differential thresholds of neural triggering and/or altered levels of neuromuscular irritability, thus giving rise to "normal" variations in emotional tone and, in certain constitutionally predisposed individuals, to more or less severe emotional disturbance.

In order to explore this theory two pre-
Crime rates in Sussex

• Cops in full moon lunar-cy (The Sun)

• More police to patrol on full moons (Daily Telegraph)

• Crackdown on lunar-fuelled crime (BBC)

• Police put more officers on beat to tackle 'full-moon violence' (Independent)

• Cops to hit streets to tackle lunar-tic drunks (Argus)
Behaviours studied in lunar research

Admissions to mental hospital
Contacts with psychiatric crisis services
Sleep
Aggression in general population
Suicide
Disturbances in mental hospital wards
Methodological issues
Lunacy: all in the mind?
<table>
<thead>
<tr>
<th>Number</th>
<th>Statement</th>
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<tbody>
<tr>
<td>1.</td>
<td>Lunar phases play an important role in human affairs</td>
</tr>
<tr>
<td>2.</td>
<td>There is some truth to the idea that ‘crazies’ come out when the moon is full</td>
</tr>
<tr>
<td>3.</td>
<td>Some people behave strangely when the moon is full</td>
</tr>
<tr>
<td>4.</td>
<td>I have never felt that the moon affects my behaviour</td>
</tr>
<tr>
<td>5.</td>
<td>It is a good idea to stay at home when the moon is full</td>
</tr>
<tr>
<td>6.</td>
<td>My own behaviour is affected by phases of the moon</td>
</tr>
<tr>
<td>7.</td>
<td>A full moon can trigger violence and aggression</td>
</tr>
<tr>
<td>8.</td>
<td>There is absolutely no relationship between phases of the moon and behaviour</td>
</tr>
<tr>
<td>9.</td>
<td>Only superstitious people believe that a full moon influences behaviour</td>
</tr>
</tbody>
</table>
Environmental explanations
New Brunswick Lunatic Asylum, Canada
Tidal force
Lunar influence on weather

‘Clear Moon, frost soon’

‘The full Moon eats the clouds away’

‘Dark mist over the Moon is a promise of rain’
The Moon and the menstrual cycle
Electrodynamics and body rhythms

Harold Saxton Burr (1889-1973)
Cyclicity

Man is a symphony of rhythms and cycles
Arnold Lieber
Susceptible conditions?

1. Bipolar affective disorder

- severe mania
- hypomania (mild to moderate mania)
- normal/balanced mood
- mild to moderate depression
- severe depression
2. Epilepsy
Lunacy on the wane?

Community care policy and closure of large mental hospitals

Medication: lithium, anticonvulsants
Patterns of belief

Lunacy has fared badly in an epistemological context of heroic medicine, and an evidence-based doctrine built on exaggerated faith in statistics. The vital spirit, anthropocentrism and other romantic ideas have been abandoned to the ignorant past. And yet just as Socrates remarked that the more he learned, the less he knew, modern science finds unremitting challenges beyond its materialist tradition. While each new discovery may seem to bring us closer to mastering the Universe, the goalposts move further away. Just as the fallibility of logic is demonstrated by self-referential paradox, positivism is teased by chaos in the system – in the dance of the electron, or in the free will of scientists themselves.