Metal Bending Research

Claims that cutlery and other metal objects can potentially be bent by mind force alone became current in the 1970s with the rise to fame of Israeli psychic Uri Geller. The effect was subsequently said to have been demonstrated by other people, notably by children who had watched Geller's feats on television (so-called 'mini-Gellers'), and by people attending metal-bending 'parties'. Investigators who tested the claims in controlled conditions concluded they were genuine. Sceptics argue that the effects are caused by standard conjuring tricks, for instance involving misdirection or the use of previously weakened materials.

Uri Geller

In November 1973, BBC Television broadcasted an interview by David Dimbleby with Uri Geller, a young Israeli who had come to public attention as a psychic. During the programme, Geller appeared to bend keys and cutlery paranormally and to cause broken watches to restart. Geller subsequently appeared often in the media, leading to the so-called Geller-craze. The great majority of Geller's demonstrations are scientifically worthless, but in his early career he made himself available for scientific testing, with generally positive outcomes.

John Taylor

John Taylor, a mathematics professor at Kings College, London, was a guest on the BBC programme, acting, as he said, as 'scientific hatchet man'. Taylor was impressed and was later the first scientist to test Geller under controlled conditions. In the first experiment, Taylor taped a 20-centimeter brass strip to the base of a letter scale that was sensitive to one-quarter ounce and asked Geller to stroke the top of the strip with one finger. No downward pressure exceeding one-half ounce (a minuscule amount) was registered on the scales at any time, yet despite this, Geller was able to cause an upward bend of 10 degrees. Even more disturbingly, Taylor relates, the measuring needle on the scale bent forward 70 degrees away from the dial as Taylor was watching.

In subsequent research, Taylor investigated Geller's ability to influence objects without contact. Geller was instructed to place his hands several inches above a container containing lithium fluoride crystals. According to Taylor's 1974 report, within ten seconds the crystal shattered into several pieces. At no point, according to Taylor, did Geller touch the sample as there was a clear gap between it and Geller's hands.[1]

In his 1975 book: *Superminds: An Enquiry into the Paranormal*, Taylor expresses high confidence in the paranormal, writing that the Geller metal-bending effect is clearly not brought about by fraud and is so exceptional as to present a crucial challenge to modern science.[2] However, Taylor later became sceptical when he failed to find an electromagnetic basis for psychokinesis, the only mechanism that he considered to be viable.[3]. In his 1980 book, *Science and the Supernatural*, Taylor's

volte face is complete: ‘We have searched for the supernatural and not found it. In the main, only poor experimentation, shoddy theory, and human gullibility have been encountered.’4

John Hasted

More detailed research was carried out by John Hasted, professor of experimental physics at Birkbeck College, University of London. Hasted first encountered Geller in 1974, observing the apparent paranormal bending of brass latchkeys under controlled conditions. Over four testing sessions (including one attended by theoretical physicist David Bohm), Hasted’s team observed the often-reported ‘plasticization’ effect of a metal spoon handled by Geller. Hasted handed Geller a spoon that had previously been bent by one of Hasted’s ‘mini-Gellers’. As Hasted described, ‘within a few seconds, and under close scrutiny, the bend in the spoon became plastic. It quickly softened so much that the spoon could be held with one end in either hand and gently moved to and fro’. The bent part was ‘soft as chewing gum’ but with a normal appearance.5

Hasted’s 1981 book *The Metal Benders* gives a full description of his research with Geller and with adults and children who exhibited similar abilities. Here he emphasizes the importance of close observation and the need to weigh specimens before and after bending to help rule out fraud. He discusses the ‘induction effect’ where Geller’s televised performances seemed to trigger metal-bending abilities in viewers, describing dramatic instances of metal softening. He explores various hypotheses for these phenomena, from natural physical causes to the action of discarnate entities. He emphasizes the importance of the subject’s mental state, noting that relaxation after concentration often produces the strongest effects the so-called ‘release of effort’ effect, widely seen in parapsychological research. He stresses the spontaneous nature of metal-bending and the difficulties in replicating effects on demand, also noting the polarization of opinion within the scientific community and the challenges of conducting rigorous research in this controversial field.

In his experiments, Hasted employed resistive strain gauges that were capable of detecting small, elastic deformations in metal as they occurred. A sensitive device was mounted on metal specimens, connected to an electrical circuit and chart recorder. The experiments were conducted with various subjects, particularly children, who could produce measurable strain signals without touching the metal. Control measures such as dummy gauges and video recording were used to verify the paranormal nature of the signals.

Hasted describes the characteristics of the recorded signals, including their onset, duration, magnitude, and structure, highlighting the complexity and variety of the data obtained. Instead of a simple inverse relationship, Hasted discovered a ‘region of action’ with a ‘centre of action’ where signals are strongest. Signal strength follows a Gaussian distribution around this centre. The position of this centre varies between experiments and is not necessarily closest to the subject: in one experiment, a metal strip was unaffected while a fork further away was bent. While physical distance plays a role, ‘perceptual distance effects’ influenced by such

factors as whether the site is an enclosed or open space are more significant in determining strength and location.6

Unlike John Taylor, Hasted believed that an explanation for the effect could be found within standard physics theories, embracing topics such as quantum field theory, virtual particles, and black hole radiation. He referred to the light cone concept in relativity theory, suggesting parapsychological phenomena might require modifications to our understanding of spacetime, such as a 'waisted' light cone allowing multiple paths to the same future event. Yet he readily conceded the difficulty of fitting paranormal metal-bending into current physics. He suggests that while quantum concepts offer intriguing possibilities, significant theoretical development is needed to bridge the gap between conventional science and observed paranormal phenomena.7

French Research

French scientists Crussard and Bouvaist comprehensively tested Jean-Pierre Girard in the 1970s. They used metallurgical techniques to study the effects of Girard's abilities on metal specimens, including dimensional measurements, micro-hardness tests, X-ray diffraction, electron microscopy, and microanalysis. They concluded that Girard could bend metal bars beyond the capability of normal human strength limits without applying significant manual force. Other key findings included:

- anomalous hardening events, in which metal properties changed in the absence of visible bending
- increased dislocation densities and loop formations similar to those caused by nuclear radiation
- localized softening and microstructural changes resembling high-temperature effects, in the absence of observable heating

The researchers attempted to correlate dynamic strain pulses with dislocation formation and to discover potential mechanisms for paranormal metal bending, such as vacancy formation or energy transfer at the atomic level.8

However, other French researchers failed to find any evidence for paranormal metal bending when testing Girard under controlled conditions.9

Scepticism

A sceptical overview of Hasted's research and that of Crussard and Bouvaist is detailed in the 1978 Spring/Summer issue of *Skeptical Inquirer.[*fn]Randi (1978).

PK Parties

In the 1980s Jack Houck, a systems engineer at Boeing, pioneered what he called 'PK Parties' to explore psychokinetic metal-bending. Some 360 such events were attended by a total of more than 17,000 participants and were based on Houck's idea that an emotionally charged atmosphere will facilitate paranormal effects. Houck reported an 85% success rate, with successful participants experiencing brief

periods of metal softening. Metallurgical analysis revealed intriguing surface alterations, including chemical reactions and marked structural changes visible under scanning electron microscopes. Houck proposed a theoretical framework linking emotions to paranormal phenomena and quantum mechanics.

Joe Nickell, a leading sceptic, observed the effects at a gathering, later attributing them to unconscious physical manipulation and the ideomotor effect.10

Houck's work, while controversial, represents a systematic attempt to study psychokinesis under controlled conditions, bridging the gap between anecdotal reports and scientific investigation of paranormal metal-bending.11

Michael Duggan

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Endnotes

Footnotes

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