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The layout almost, but not quite, matches the layout in the book. The page breaks are similar but not identical. The endnotes have been renumbered. References lacking full citations within the endnotes are given in the reference list at the end.

Martin Gardner

The person of Martin Gardner illuminates reflexivity. His work covers mathematics, magic, literary criticism, the paranormal, religion, and paradox, and he exemplifies the cross-pollination and hybridization that can accompany reflexivity. Gardner is a lively, fascinating,

and paradoxical character, and as such this section may provide a respite from the abstract philosophical matters that dominate this Part.

Gardner has also been the single most powerful antagonist of the paranormal in the second half of the twentieth century, and any cultural analysis of the paranormal must grapple with him. His innumerable books, articles, and life provide a wealth of material for examination.¹ These illuminate the paranormal in a way rarely seen; for the antagonist not only instinctively identifies the weaknesses of the other, but also possesses some of the qualities he despises. Much is to be gained by studying him.

Gardner is an extraordinarily prolific and influential writer; his work has appeared in many magazines, and major publishing houses have produced his books. His recent anthology, *The Night Is Large* (1996), included a list of 56 of his books, and that was incomplete. For much of his career he lived in the New York City area and developed important contacts in the publishing industry. His influence is evidenced by the fact that he was allowed to review one of his own works in the pages of the *New York Review of Books*.²

His greatest fame came from the Mathematical Games column he wrote for *Scientific American* for a quarter century, and upon his retirement from it, several magazines carried articles about his career.³ After he retired, Douglas Hofstadter carried on for a while in the same vein preparing a similar series entitled "Metamagical Themas." Gardner's writings educated generations of mathematicians, computer and physical scientists, and engineers, and many who read him as children are now in positions of power. He has been celebrated by mathematicians, with Volume 22 (1990) of the *Journal of Recreational Mathematics* dedicated to him. Also, a book of essays, *The Mathematical Gardner* (1981), was prepared in his honor.⁴ But mathematics is not the only area in which he has achieved fame.

Gardner established his reputation in the paranormal in 1952 with his book *In the Name of Science*, which proved to be a landmark in debunking polemics. That work took a popular rather than scholarly approach; it contained no footnotes or list of references, and it established an aggressive, belittling style now common among debunkers of the paranormal. In 1957 the book was revised and released under the title *Fads and Fallacies in the Name of Science*, and it remains in print.

His numerous contacts in New York publishing helped him to promote the skeptical movement publicly and assist it behind the

scenes. He aided C. E. M. Hansel in getting his academic, highly skeptical *ESP: A Scientific Evaluation* published in 1966; that book was probably the most detailed critique of the scientific parapsychology literature to that time. Undoubtedly Gardner has helped others. He was a founding member of CSICOP, and his circle of friends, including Marcello Truzzi, James Randi, and Ray Hyman had formed a loose group called RSEP (Resources for the Scientific Evaluation of the Paranormal) that was CSICOP's immediate predecessor. Gardner also served as something of a father figure to magician James Randi, who went on to become the most visible spokesman for CSICOP. With these efforts and others, Gardner is justifiably referred to as the godfather of the skeptical movement.

Gardner was born in 1914 in Oklahoma. His father was a geologist and oilman and pantheist; his mother was a devout Methodist. As a teenager, Gardner embraced a strain of Protestant fundamentalism. He attended the University of Chicago intending to study physics, but he got sidetracked and majored in philosophy instead. He studied under Rudolf Carnap, who had been a leading figure in the Vienna Circle, and Gardner later edited a book of his. While at the university, Gardner underwent a religious crisis and rejected his high-school fundamentalism. The transition was painful, and in order to deal with it, he wrote a semi-autobiographical novel *The Flight of Peter Fromm*. That work remained unpublished until 1973, years later.

That book is narrated by Homer Wilson, a secular humanist professor, who tells the story of a young divinity student at the University of Chicago, Peter Fromm. Peter slowly rejects a literalist interpretation of the Bible and embraces a basically rationalistic one. The book is largely devoted to a discussion of Protestant theology, and Gardner shows great familiarity with the writings of Tillich, Barth, Niebuhr, Bultmann, Kierkegaard, and others. He obviously spent an enormous amount of time reading and pondering them. *The Flight of Peter Fromm* was engagingly written, and it was of sufficient merit to receive a review in the *Journal for the Scientific Study of Religion*.⁵

Thousands of others have undergone such transformations, but Gardner's writing is valuable because it so clearly explains the issues, a characteristic of his prose generally. Both the book and his later commentaries on it express an antagonism toward ambiguity in religious matters. Much of his crisis of faith revolved around the literal truth of the resurrection of Christ, the Virgin Birth, and other miracles, and he was unable to accept the evidence for them. His striving for clarity led him to confront issues that many try to avoid.

The book was reprinted in 1994, by Paul Kurtz's Prometheus Books, with an afterword in which Gardner discussed his early fundamentalism and reported that when he reread the book in order to prepare the afterword, that "it was agonizing to recall the doctrinal zigzags of my youth."⁶ There is no question that religious issues have had a profound impact on his life, and he has a continuing preoccupation with them.

During his Chicago years, scholarship consumed Gardner. John Booth, a leading chronicler of magic and magicians, knew him as a young man and commented on his then "monk's existence . . . [living] in a single plain room furnished only with a cot, desk and chair. In a few shoe boxes were filed stacks of cards on which he had laboriously summarized the total of all the knowledge that he felt he possessed."⁷

The philosophical bent never left Gardner, and he seems to prefer books, ideas, and abstractions to direct personal contact. Several have commented upon his shyness; though an active correspondent, Gardner almost never attends conferences. He has never made a presentation at a CSICOP convention, and when the Mathematical Association of America honored him at its annual meeting, he did not attend.⁸ As a writer, Gardner is a more solitary figure than those in academe who regularly interact with students and colleagues on a daily, face-to-face basis.

One cannot understand Gardner and his involvement in the paranormal without considering the entire corpus of his writings including those on conjuring, mathematics, logic, paradox, and religion. He freely intermixes these and does not treat them as separate, clearly demarcated fields of inquiry. This boundary blurring befits a trickster character. His views on the paranormal are intricately linked not only with religion, conjuring, and philosophy, but can even be seen in his writings on mathematics. Both in his person and in his work, he brings together topics that others keep separate.⁹

Critic

In the last half-century, Gardner has been *the* most prolific and influential critic of the paranormal, and many of his essays on it have been compiled into anthologies including *Science: Good, Bad and Bogus* (1981), *The New Age: Notes of a Fringe Watcher* (1988), and *On the Wild Side* (1992). A number of his other collections carry pieces on the paranormal as well. His commentary on psychical research runs the gamut from obscure figures in its history such as Johann Zöllner,

Douglas Blackburn, and Leonora Piper to more modern, laboratory psi research conducted at Duke University, Stanford Research Institute and elsewhere.

Gardner's role as paranormal critic cannot be appreciated without knowing his background in conjuring. Magic has been his life-long hobby, and he began writing on it while still a teenager. Though he does not perform publicly, he has made innumerable contributions to that field.¹⁰ Among other periodicals, Gardner contributed to *The Jinx*, a newsletter edited by Ted Annemann, perhaps the most creative mentalist of the twentieth century. A Gardner piece appeared in the 1938 Summer Extra issue, and the cover story of the immediately following number, August 1938, was devoted to a critique of Rhine's work by Annemann. This kind of article is not uncommon in the magic literature, but parapsychologists are almost completely unaware of it. Gardner though has had a long exposure to that venue of criticism, and that helped shape his life.

Gardner's interest in magic was not limited to mentalism, and he produced the 574-page *Encyclopedia of Impromptu Magic* (1978), which was compiled from his numerous magic magazine columns. Much of that material is pertinent for close-up situations, where a magician performs within a few feet, or even inches, of spectators. Knowledge of close-up magic is required for evaluating demonstrations of claimed PK such as bending keys or spoons or levitating small objects. Stage magic, on the other hand, is largely irrelevant for such assessments. Thus Gardner is particularly well qualified to comment on deception and the paranormal.

Much of his criticism of psychical research focuses on possibilities of cheating. He has an ability to quickly spot methods magicians might use in overcoming controls. His attacks are usually on the mark, but they are not always recognized as such by those whom he criticizes, investigators who typically have no knowledge of conjuring. Nearly all of Gardner's criticisms have been leveled at reports of individuals gifted with psychic powers. He avoids commenting on experiments that test groups of ordinary people who claim no special abilities, though such studies comprise the bulk of formal parapsychological research. The problem of deception is much less severe in research with groups than with investigations of a talented individual.¹¹

Though little of his criticism is directed at work published in the refereed parapsychology journals, a notable exception is his book *How Not to Test a Psychic: Ten Years of Remarkable Experiments with Renowned Clairvoyant Pavel Stepanek* (1989). Stepanek, a clerk and

resident of Prague, was extensively tested in the 1960s, but he is little known outside parapsychology. He obtained outstanding results in a set of tedious card experiments in which he was asked to guess which face of a card was uppermost inside a container (typically the cards had a green and a white side). This was a binary decision with a 50% chance of being correct on a trial. Many papers were published on Stepanek in the parapsychology journals as well as one in *Nature*, and for some years the research was considered landmark work in the field.

Gardner attacked it from the perspective of a magician. He suggested ways that subtle sensory cues coupled with cheating could explain the results. He also addressed potential randomization flaws on which Stepanek might have capitalized. Overall, he convincingly demonstrated that the investigators did not use sufficiently strict controls and did not understand methods a magician might use to cheat. The parapsychologists' responses were surprisingly weak. Only Jurgen Keil attempted a defense, and that was brief.¹² Given the voluminous research with Stepanek, the limited response to Gardner is surprising. This is partly explained by the cogency of Gardner's assault, but also because the Stepanek work has relatively little relationship to other major research in the field either theoretically or procedurally. As the original studies were published in professional parapsychology journals, Gardner's attack constitutes one of the strongest indictments of the field on its inability to institute adequate safeguards against trickery.¹³

How Not to Test a Psychic is an extremely detailed, technical work, and because the potential readership is small, I was surprised that the book was published. I would be more surprised to learn that even 10–15 people read it with any thoroughness. It is to his and his publisher's credit that the critique saw print. Considering the breadth and depth of his effort, the only comparable attack from a CSICOP member focussing on a particular line of research is Ray Hyman's 1985 critique of the ganzfeld, which was substantially refuted.¹⁴ Gardner demonstrated a capability to address a sophisticated research effort. He proved himself a formidable critic on certain technical matters, far more so than a number of professional psychologists who have published skeptical books on psychical research.

All this is not to say that Gardner's critiques are without flaws, and there have been some ethical questions raised about his methods. Gardner wrote to Stepanek and suggested that he give an interview describing how he cheated. Gardner offered to help publicize it and arrange for a documentary film that would bring him money and fame.

Stepanek refused, a fact that tends to support his honesty. Some may see Gardner's attempt as one of bribery to suborn testimony. He seems to have been embarrassed by the matter, and when his letter to Stepanek became known, he threatened to sue if it was published.¹⁵

Another facet that detracts from Gardner's full credibility is that he has been unwilling to submit to the discipline required for scientific publication. He has chosen to publish his work in unrefereed, popular forums where he is not subject to peer review and full and open rebuttal. Unfortunately this led him into errors that he might not have otherwise made.

A most surprising series of mistakes is found in his comments on the statistics of the Stepanek work. His remarks reveal an ignorance and carelessness entirely unexpected from someone who has written so clearly on probability and someone so honored by mathematicians. For instance, on page 67 of *How Not to Test a Psychic* he cites a study where Stepanek achieved 2636 hits out of 5000 trials giving a deviation from chance of 136, but Gardner claims that this is very close to chance level. In fact, as the original report states, that score gives a $z = 3.85$ with a $p = .00012$ (2-tailed). This is a very significant result, and anyone familiar with these kinds of calculations, even seeing just the raw score, should immediately recognize the outcome to be significant. It is hard to understand how Gardner made this mistake.

This is not the only such error; on page 98 he cites a series with 225 hits in 400 trials, 25 hits above chance, and he again claims this to be at chance level, which clearly it is not ($p = .007$, one-tailed). Ironically, in the paragraph immediately preceding this claim, Gardner cites an earlier Stepanek series with 400 hits out of 800 trials. He goes on to say that this "tends to cast suspicion on the reliability of the data" because the result was exactly at chance. He correctly gives the probability of obtaining exactly that score ($p = .028$). This is of marginal significance at best, and the value is much larger than those p -values he incorrectly claimed were at chance.

This is not an isolated example, and throughout his book, Gardner voices suspicion of any score close to the expected mean and suggests that there may be some problem with the data. Of those instances I noticed, all those of which he was suspicious had associated probability values of .028 or greater and some as high as .09. There were hundreds of runs with Stepanek, the large majority not particularly close to the exact mean chance value. Gardner gives the reader no reason whatever to suspect that the number of scores very close to the expected mean was any greater than chance would allow. He could have made a

calculation to address the matter, but he failed to do so. His complaints are simply examples of selective reporting, a well known statistical fallacy.

Several places in the book Gardner admits that he had friends do calculations for him. Surprisingly, those were very simple computations that are typically taught the first few weeks of any introductory class in statistics. Ironically, back in 1979, Gardner was interviewed and asked about mathematics in parapsychology. He stated "I'm going to do a column that will discuss this whole aspect of contemporary parapsychology, and the need for a more sophisticated understanding of some of the statistics involved."^{16 17}

Statistics is not the only area where Gardner is less capable than might be expected. His comments on more general scientific matters also reveal deficits. For instance, he asserted that "There is no way a skeptic can comment meaningfully on the Honorton and Schmidt experiments, because there is no way, now that the tests are completed, to know exactly what controls were in force."¹⁸ In fact, since that statement was made, a number of skeptical psychologists have published assessments of both Honorton's and Schmidt's work. Similar evaluations are made in all other areas of science and have been for decades. Journal articles contain a great deal of information that allows assessment, and that is why the details are published. Reviewers frequently contact authors when additional information is required. This happens in all sciences. Gardner was amazingly uninformed about how scientific research is actually conducted, reported, and evaluated.¹⁹

One should remember that Gardner has a strong background in philosophy, but he has not had the advantage of carrying out day-to-day scientific research. He has only a philosopher's idealized conception of science, and his remarks must be interpreted in that light. In the last 25 years, sociologists have demonstrated that the process of science is rather different than philosophers thought, and that is particularly germane for skeptics of the paranormal. Trevor Pinch and Harry Collins, two prominent researchers in the sociology of scientific knowledge (SSK), have shown that participating in scientific research changes one's understanding of it. To illustrate their point, they investigated CSICOP and concluded that if the Committee wished to maintain its philosophical view of science it should not engage in research, and in fact, CSICOP established a policy against conducting research itself.²⁰ Gardner is not oblivious to SSK and its ramifications,

and he has been a critic of Collins and Pinch, particularly on the topic of relativism, but he has not addressed their findings on CSICOP.²¹

Gardner is also sometimes beyond his ken when he discusses technical and theoretical issues of parapsychology. He has complained that PK effects in experiments typically rely upon statistical deviations for detection rather than direct movements of mechanical objects. That objection is laden with assumptions about how psi works. Vast amounts of research demonstrate that psi does not act like a mechanical force, and several plausible theoretical explanations have been presented to explain that. Gardner seems totally unaware of them. Yet when parapsychologists respond to his uninformed remarks he replies offering gratuitous comments such as "I find it puzzling that Rao and Palmer cannot understand such simple reasoning."²²

Even in magic, his knowledge is spotty in some areas. For instance, he has asserted that "Conjurors are indeed the enemy [of psychic researchers]."²³ Through his popular writings, Gardner has been largely responsible for the canard that magicians are generally skeptical of the existence of psychic phenomena. Perhaps his relative isolation keeps him away from a broad cross-section of magicians. In fact studies have shown that the majority of conjurors believe in the paranormal, and a number of eminent ones have participated in psychical research.²⁴

The general style of his criticisms is unlike that found in scientific journals. His are often biting, derisive, personal, and peppered with words such as "laughable," "ridiculous," with allusions to "youthful indiscretions," and references to parapsychologists as "Geller-gawkers." He makes liberal use of innuendo. The prestige endowed by his long association with *Scientific American*, coupled with the low status of his targets, allow him tactics that otherwise would be considered reprehensible. He is aware of it, and he frankly acknowledged that he and his colleagues "felt that when pseudoscience is far enough out on the fringes of irrationalism, it is fair game for humor, and at times even ridicule."²⁵ Gardner popularized H. L. Mencken's aphorism "one horse-laugh is worth ten thousand syllogisms," using it as an epigraph for his *Science: Good, Bad and Bogus*, making it something of a motto for debunkers.

His extensive sarcasm and ridicule should alert readers that something other than detached, dispassionate analysis is involved in his critiques. Even though he is skeptical, Gardner undeniably has a deep fascination with the paranormal. He has expended enormous intellec-

tual effort, professional time, and personal energy on it. Paranormal claims enrage him and occasionally provoke his naive and emotional outbursts. This says something important about the phenomena. Even skeptics do not remain untouched by them. Gardner is a particularly important example because he directly confronts claims and deals with them in an extended fashion. As such, he has more immediate contact with the paranormal than those academics who simply dismiss it or comment on more abstracted issues such as belief in psychic abilities. Over seventy years ago, Walter Franklin Prince described the “enchanted boundary” and explained that when skeptics cross it they generally display a loosening of intellectual judgement and emotional restraint.²⁶ Gardner is an example.

Gardner is at least somewhat aware of the psychological factors affecting his views of parapsychology. In his essay “Science: Why I Am Not a Paranormalist” he explained that the idea of telepathy makes him uneasy: “I also value the privacy of my thoughts. I would not care to live in a world in which others had the telepathic power to know what I was secretly thinking, or the clairvoyant power to see what I was doing.” He also wrote that “PK opens up even more terrifying possibilities. I am not enthusiastic over the possibility that someone who dislikes me might have the power from a distance to cause me harm.”²⁷ These statements raise a fundamental issue—paranoia. Though I am not suggesting that Gardner is paranoid, his concerns are paranoiac, and it is to his credit that he recognizes potentials of psi that most parapsychologists wish to ignore. Paranoia is an important issue, and it is intricately linked to mirrors and reflexivity. A later chapter is devoted to it.

Gardner and Religion

Many people are surprised to learn that Gardner is not an atheist. He believes in God and in prayer as can be seen in his *The Whys of a Philosophical Scrivener*. But because so many have been amazed when I told them this, I suspect that some of them thought that I misinterpreted Gardner or somehow took him out of context. So I wrote to him, and he confirmed his belief in “a personal god, prayer, and life after death” (letter to author, 16 Nov 96). The religious crisis of his youth led him to reject his Protestant fundamentalism, but he did not reject God.

Gardner’s virulent attacks on the paranormal are not based solely on its frequent association with deceit. Nor is his antagonism founded

only on the unpleasant ramifications of psi. Gardner’s antipathy has deeper roots. His essay “Prayer: Why I Do Not Think It Foolish” is revealing; for in it he says: “It is possible that paranormal forces not yet established may allow prayers to influence the material world, and I certainly am not saying this possibility should be ruled out a priori . . . As for empirical tests of the power of God to answer prayer, I am among those theists who, in the spirit of Jesus’ remark that only the faithless look for signs, consider such tests both futile and blasphemous . . . Let us not tempt God.”²⁸

Nor is the above quote an isolated example. He also objects to interpreting miracles in terms of parapsychological concepts. He goes on to say that “If I were an orthodox Jew or Christian, I would find such attempts to explain biblical miracles to be both preposterous and an insult to God.”²⁹ Obviously he feels that attempts to explain the workings of God in scientific parapsychological terms diminish the concept of divinity. God is to be exalted, not tested.

These statements cannot be ignored if one wishes to understand his views of parapsychology. The importance of them should not be underestimated, because he has stated that “Of my books, the one that I am most pleased to have written is my confessional, *The Whys of a Philosophical Scrivener*, with my novel about Peter Fromm running second.”³⁰ Obviously Gardner’s opposition is of a different order than most CSICOP followers, and I suspect that few of them appreciate this basis of his opinions. A rationalist debunker encountering the above passages might unconsciously skip over them, or perhaps think them to be in jest, because in the vast bulk of his writings on the paranormal Gardner gives no inkling of his underlying religious feelings. Despite his influence among debunkers, his *Whys* was not reviewed in the pages of the *Skeptical Inquirer* or the parapsychology journals. Perhaps they didn’t know quite what to make of it.

Gardner’s position is profoundly contrary to those of rationalists and secular humanists, with whom he frequently allies himself. Most of them would assert that every topic is open for scientific scrutiny; full investigation and inquiry should be encouraged. Religious restrictions on science are regressive, irrational, and squelch the search for truth. A rationalist is likely to believe that the only inherent harm in researching God or the paranormal is wasted time and effort. Badly conducted psi research resulting in positive, though invalid, findings simply furthers delusion. That should be combatted, but research is not a threat simply because of the content. Gardner, however, opposes investigation of a

topic on religious grounds purely because of the subject matter. This deserves exploration.

Gardner's position can be traced back to his teenage Protestant fundamentalism. Protestantism draws a sharp demarcation between God and man; Gardner wants to uphold that and does not want man to appropriate the role of God. The binary opposition is not to be blurred.

Max Weber's concept of rationalization helps illuminate this. Weber recognized the crucial differences between an immanent and a transcendent God. An immanent God can be found within the material world. The transcendent God is above and beyond it; He may intervene, but there is a clear distinction between the material and the divine. Weber pointed out that the immanent-transcendent dichotomy is reflected in the Catholic-Protestant split. The divine is closer to the human in Catholicism than in Protestantism. Catholicism is more mystical; it has monastic orders and a priesthood. With transubstantiation in Catholicism, the bread and wine become the body and blood of Christ. Protestants see bread and wine as only symbols. In Protestantism, faith alone is required for salvation. That keeps it strictly mental; the divine is separated from the physical.

Protestantism has an intellectual tradition that critiqued miracles and dismissed them, and Gardner can be considered to fall loosely within that tradition. Attacking miracles is a step in the disenchantment process. Gardner and the Protestants are not full rationalists; they don't seek full disenchantment of the world. They leave room for mystery, and Gardner does not want to intrude upon it.

Gardner's attitude toward mysticism is ambivalent, but he does describe himself as "a mystic in the Platonic sense."³¹ To his credit, he does not ignore the issue of paradox; he acknowledges it in at least some religious contexts. He recognizes the numinous, and in his *The Whys of a Philosophical Scrivener* he discusses Kurt Gödel and a few paragraphs later covers Rudolf Otto and the *mysterium tremendum*, directly mixing mathematics and religion. Of the numinous he says "It is the secret of the book of Job,"³² indicating an understanding that few have today. Yet he doesn't fully explore the numinous either in his novel or essays, though in Otto's formulation, the numinous is the source of supernatural phenomena. Gardner is clearly ambivalent toward miracles and mysticism; he does not completely disparage them. His fascination is evinced by the last chapter of *The Flight of Peter Fromm*, which has a generally favorable discussion of Francis of Assisi.³³

Reflexivity is pertinent to understanding Gardner's religious beliefs. Gardner is known for his clear writing, and that is one of the keys to his professional success. He is able to take complex topics and explain them simply. His religious thought shows this same striving for clarity, but he perhaps does not fully appreciate its consequences. Clarity and precision have costs, and reflexivity is central to understanding that. Reflexivity subverts clarity, and it is no accident that the writings of the deconstructionists and ethnomethodologist Harold Garfinkel are so obscure. Gardner serves as a counterpoint to them.

One of the most capable expositors on reflexivity and ambiguity is Bruno Latour, a prominent figure in the sociology of scientific knowledge, and his essay "The Politics of Explanation" discusses the issues at length. As will be explained in the chapter on literary theory, deconstructionism calls into question the correspondence between an object and its representation, between a text and its referent. Deconstructionists assert that there is no unambiguous connection between them, either in principle or in practice. Latour explains several aspects of reflexivity, and one "is based on the idea that the most deleterious effect of a text is to be naively believed by the reader as in some way relating to a referent out there. Reflexivity is supposed to counteract this effect by rendering the text unfit for normal consumption (which often means unreadable)."³⁴

Latour specifically addressed the story of the empty tomb in the Gospel of St. Mark. He goes on to say that "The good reader of such a text is not the one who asks the silly question 'What *really* happened there? Would I find traces of the empty tomb if I were to go to that place in Jerusalem and dig the ground?'"³⁵ This is *exactly* the problem Gardner wrestled with in *The Flight of Peter Fromm*. Peter wondered what *really* happened with the resurrection, and whether Christ's bones could be found. Gardner never fully shook the effects of his teenage Biblical literalism and as a result rejected Christianity. Yet he is too sophisticated to be a rationalist, and he is more philosophically astute than most deconstructionists.

Paradox is one of the ramifications of reflexivity, and we encounter it here. Gardner chooses to embrace paradox rather than succumb to ambiguity. He believes in the power of prayer and life after death, yet he aggressively opposes scientific investigation of them. He allies himself with Paul Kurtz, a secular humanist and prominent publisher of atheist material. Gardner has even served as a co-chairman of a joint fundraising drive of CSICOP and CODESH (Council for Democratic

and Secular Humanism). The religious man and atheist banded together to ward off the supernatural.

Gardner seems to recognize that there are limits to what can be known and expressed about the world via rational means. He accepts some things on faith alone. But he has rejected the path of direct experience; which both mysticism and science can provide. Gardner is a mystic only in the intellectual sense, and he has never been a practicing scientist. He works in an abstracted world where text is primary. He vehemently opposes using science to empirically address religious issues. That would blur a major binary opposition. He is comfortable with CSICOP because it doesn't really do science. Instead it ridicules attempts to study the paranormal scientifically.

Gardner's religious beliefs seem to have colored his relations with parapsychologists, and he has had a particularly strong antipathy toward J. B. Rhine. (Like Gardner, Rhine had an early formative interest in religion, and Rhine had planned to enter the ministry before switching to science. He later went to the University of Chicago.) In a conversation with me, Gardner referred to Mauskopf and McVaugh's book *The Elusive Science* as a "hagiography." This characterization is absolutely absurd, and I was puzzled by it. When I saw his remarks about tempting God, I recalled that Rhine had written of a potential role for psi in prayer and that he had even carried out a PK experiment pitting ministerial students against others who had a reputation for being good at shooting craps. This was dubbed the "Preachers versus Gamblers" study and was instigated by William Gatling, a Duke divinity student.³⁶ Gardner may have construed that research as "testing God" and therefore blasphemous.³⁷

Gardner's religious concerns were overt in his attacks on parapsychological research at Stanford Research Institute. He was exceedingly incensed that some of those involved had a background in Scientology, and he wrote scathing denunciations, complaining about their religious affiliations, suggesting that they should not be trusted.³⁸ His religious biases are apparent in other contexts as well. He argued that science writer Forrest Mims should not become a columnist for *Scientific American* because he was a creationist, even though his views would have no impact on his work for the magazine.³⁹ Gardner perhaps recognized the bias resulting from his own religious convictions but projected it onto his opponents.⁴⁰

Gardner's views on the paranormal are intricately linked to his ideas about miracles, prayer and God. When he says that we should not test

God, he in effect invokes the primitive taboos against illicit contact with the supernatural. In our rationalized world, most people do not consciously recognize the taboos, but if they do, they are dismissed from serious intellectual consideration. Yet the taboos still exist, and in his own way, Gardner is an agent for maintaining them.

Gardner serves as a border guard to keep the paranormal out of science and academe. He belittles parapsychological researchers in order to ensure their marginal status. By emotional attacks and biting sarcasm he warns others to stay clear of the realm. He portrays the paranormal as unsavory, "unclean," and unsuited to be part of elite culture. His writings, actions, and life comprise an important case study of how taboo continues to be enforced.

As such, Gardner's social position merits analysis. He serves as a buffer, protecting the rationalized world, but in directly grappling with paranormal claims, he is tainted by them. This is reflected by his position in society. For most of his life he remained largely outside the usual bureaucratic structures of employment found in government, industry, and academe. Though for many years he wrote a column for *Scientific American*, he was primarily a free-lance writer. Though widely read and cited by scholars, he never held an academic appointment; he doesn't even have an advanced degree. His reputation was made through his individual efforts, rather than by establishing a group or leading an organization. Thus Gardner can be considered an interstitial or anti-structural character. This is fitting for someone who directly engages the paranormal. That activity is unsuitable for a person firmly emplaced within an established bureaucratic organization. Gardner's social position is thus compatible with his function.

I grew up reading his *Scientific American* column and learned much from him. Despite his biases, he has a great many insights about religion and the paranormal, and when he writes about them, few equal his clarity or incisiveness. He has an ability to creatively combine ideas from unexpectedly diverse areas, and the paranormal is frequently part of the mix. His efforts give psychic phenomena a certain visibility and prominence they might otherwise lack. He has untiringly pointed out the frequent association of deception and psi, which many parapsychologists choose to ignore. His writings brought repeated examples to my attention, and he was an important influence in my thinking about parapsychology (especially after learning a subject sufficiently to recognize what had been left out of his accounts!). He has thought about dangers of the paranormal, which many are reluctant to confront. It is his intelligence, breadth of knowledge, sophistication,

and intensity of feeling that make him such a fascinating and important character.

Above all, he is paradoxical, and the issue of paradox involves more than just his mathematical interests. It and other trickster manifestations are seen in both his philosophy and his life. A believer in prayer and a personal god, he allies himself with atheists. Though an aggressive debunker of the paranormal, Gardner promoted mentalist Stanley Jaks as having genuine psychic abilities.⁴¹ A superb writer on issues of probability, his criticisms of statistics in parapsychology might be charitably described as undistinguished. Describing himself as a Platonic mystic, much of his writing is grounded in Aristotelian logic. These paradoxical aspects involve the core of his being.

¹ Some biographical material is available. See the September 1979 issue of *The Two-Year College Mathematical Journal*, which carried a long auto-biographical piece (Gardner, 1979) and an interview with him (Barcellos, 1979). John Booth's *Dramatic Magic* (1988) has biographical material on Gardner, as well as on James Randi and Walter Gibson. All three have written extensively on the paranormal.

² For a reprinting of that review of his *The Whys of a Philosophical Scrivener* and an additional commentary, see Gardner's *The Night Is Large*, 1996, pp. 481–487.

³ e.g., *Science* 81, July/August, pp. 32–37; *Newsweek*, November 16, 1981, p. 101.

⁴ *The Mathematical Gardner* edited by David A. Klarner, Boston, MA: Prindle, Weber & Schmidt, 1981.

⁵ Review by Marion Dearman, *Journal for the Scientific Study of Religion*, Vol. 12, No. 4, 1973, pp. 484–485.

⁶ *Ibid.*, p. 280.

⁷ Booth, 1988, p. 194.

⁸ The source of information for his not attending the MAA meeting is John Booth's *Dramatic Magic* (1988), p. 196.

⁹ Gardner is not the first to have such diverse interests. Lewis Carroll (Charles Lutwidge Dodgson) wrote on mathematics and logic puzzles, dabbled in conjuring, and was a member of the Society for Psychical Research. Gardner did *The Annotated Alice* (New York: Bramhall House, 1960) which explained the subtleties of Carroll's *Alice's Adventures in Wonderland* and *Through the Looking Glass*. Gardner mentioned that he felt spiritual kinship with Carroll. See *The Universe*

in a Handkerchief: Lewis Carroll's Mathematical Recreations, Games, Puzzles, and Word Plays (New York: Copernicus An Imprint of Springer-Verlag, 1996), p. ix.

¹⁰ See A Bibliography of Martin Gardner in *Magic* by Dana Richards. In *Martin Gardner Presents* by Martin Gardner (Edited by Matthew Field, Mark Phillips, Harvey Rosenthal, and Max Maven). Published by Richard Kaufman and Alan Greenberg, 1993. Pp. 399–415.

¹¹ Elsewhere I have discussed the differing safeguards required in research with groups as opposed to that with gifted individuals. See Hansen, 1990a.

¹² Jurgen Keil, How A Skeptic Misrepresents the Research with Stepanek: A Review of Martin Gardner's *How Not To Test A Psychic*, *Journal of Parapsychology*, Vol. 54, 1990, pp. 151–167. See also Milan Ryzl's letter in the *Journal of Parapsychology*, Vol. 54, 1990, pp. 282–284. Gardner responded to Keil in a letter in the *Journal of Parapsychology*, Vol. 55, 1991, pp. 116, followed by a rebuttal by Keil in the same issue, pp. 116–118. John Beloff reviewed the book in the *Journal of the Society for Psychical Research* (Vol. 56, 1990, pp. 171–175) and seemed to admit the problems with the controls. However, Beloff's ability to evaluate technical merits of experiments, and criticisms, might be charitably described as limited.

¹³ My own article "The Research with B.D. and Legacy of Magical Ignorance" (1992) reinforced this message, and Gardner provided helpful information when I prepared that critique.

¹⁴ "The Ganzfeld Psi Experiment: A Critical Appraisal" in the *Journal of Parapsychology*, 1985, Vol. 49, pp. 3–49. That was immediately followed by a rebuttal by Charles Honorton, "Meta-analysis of Psi Ganzfeld Research: A Response to Hyman," pp. 51–91.

¹⁵ Letter from Milan Ryzl, *Journal of Parapsychology*, Vol. 54, 1990, p. 284.

¹⁶ Barcellos, 1979, p. 243.

¹⁷ Parapsychology has suffered a long history of invalid statistical criticisms. Even back in the 1930s Rhine was subjected to attacks from ignorant psychologists. Professional statisticians, who were not as well established as they are today, became alarmed because they recognized that the attacks on Rhine also besmirched their own discipline. Eminent statisticians Thornton Fry, S. S. Wilks, Edward Huntington, and Burton Camp were in touch with Rhine. A statement was prepared and issued by Camp, president of the Institute of Mathematical

Statistics, defending Rhine's statistics. For more on this see Mauskopf and McVaugh's *The Elusive Science*, p. 258.

¹⁸ Gardner, 1977/1981b, A Skeptic's View of Parapsychology, *Science: Good, Bad and Bogus*, p. 141.

¹⁹ His statement about the inability to evaluate the Honorton and Schmidt experiments was made 12 years before he published his Stepanek critique. Presumably Gardner would not make such a statement now.

²⁰ Pinch and Collins, 1984. For CSICOP policy, see Policy on Sponsoring Research, Testing Individual Claims, and Conducting Investigations of Alleged Paranormal Powers and Phenomena, *Skeptical Inquirer*, Vol. 6, No. 3, 1982, p. 9.

²¹ Gardner, 1983/1988, Fool's Paradigms, *The New Age: Notes of a Fringe Watcher*, pp. 184–187.

²² The quote is from *How Not to Test a Psychic*, p. 56. Gardner also raised the point earlier in lengthy a debate on parapsychology in the pages of *Behavioral and Brain Sciences*, Vol. 10, No. 4, 1987, see p. 587.

²³ Gardner, 1988, p. 18.

²⁴ See the earlier chapter *Conjurors and the Paranormal*; Truzzi, 1997; Hansen, *Magicians Who Endorsed Psychic Phenomena*, 1990, *Magicians on the Paranormal*, 1992.

²⁵ *Order and Surprise* by Martin Gardner, Buffalo, NY: Prometheus Books, 1983, p. 213.

²⁶ Prince, 1930.

²⁷ The two quotes are from pages 57 and 58 of *The Whys of a Philosophical Scrivener*.

²⁸ Gardner, 1983, p. 239.

²⁹ *Ibid.* p. 232.

³⁰ A Mind at Play: An Interview with Martin Gardner by Kendrick Frazier, *Skeptical Inquirer*, March/April, 1998, pp. 34–39, see p. 38.

³¹ Gardner, 1983, p. 330.

³² *Ibid.* p. 331.

³³ Though *The Flight of Peter Fromm* was narrated by a secular humanist professor, the author's sympathies were more with his young protagonist who maintained a belief in God. Not everyone understood this, but one who did was Phillip E. Johnson, a law professor at the University of California at Berkeley and a prominent Christian creationist. Johnson bought a dozen of Gardner's remaining copies of the 1973 edition of the novel and gave them to students and friends,

resulting in a surprising, almost paradoxical, audience. Paul Kurtz's publishing house, Prometheus Books, reprinted the novel in 1994, and one wonders whether Kurtz understood Gardner's message and whether he was pleased with the readership. Johnson's interactions with Gardner are described in *Reason in the Balance: The Case Against Naturalism in Science, Law & Education* (1995), Downers Grove, Illinois, InterVarsity Press, pp. 236–238.

³⁴ Latour, 1988, p. 168.

³⁵ *Ibid.* p. 167.

³⁶ Gatling and Rhine, 1946.

³⁷ Rhine made it clear that experimental parapsychology had implications for religion, and he included a full chapter on it in *The New World of the Mind* (1953).

³⁸ Gardner, 1988, pp. 57–64.

³⁹ Gardner, 1992, pp. 111–117.

⁴⁰ *Harper's* magazine (March 1991, pp. 28–31) carried a transcript of a telephone conversation between Mims and Jonathan Piel, editor of *Scientific American*, which demonstrated the overt religious discrimination by *Scientific American*.

⁴¹ In an article he wrote under the pseudonym of George Groth for the October 1952 issue of *Fate* magazine. (He Writes with Your Hand, by George Groth, *Fate*, Vol. 5, pp. 39–43.) That issue of *Fate* also carried an article by J. B. Rhine.

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