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### Dorothy Scarborough. 'Supernatural Science' (1917)

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## DOCUMENT IN THE HISTORY OF SCIENCE FICTION

### Dorothy Scarborough

#### Supernatural Science

Introduced and annotated by Arthur B. Evans

In its day, Dorothy Scarborough's book *The Supernatural in Modern English Fiction* (1917) was considered to be the best scholarly study on the subject. As the author points out in the book's preface, the sheer size of its corpus was impressive: "the supernatural in modern English fiction has been found difficult to deal with because of its wealth of material. While there has been no previous book on the topic, and none related to it ... the mass of fiction itself introducing ghostly or psychic motifs is simply enormous" (v). Scarborough divided her book into seven chapters: The Gothic Romance, Later Influences, Modern Ghosts, The Devil and His Allies, Supernatural Life, The Supernatural in Folk-Tales, and Supernatural Science. The last chapter stands out from the rest and prompts one to wonder if "The Scientific Supernatural" might have been a better chapter heading. But this question of nomenclature and appellation goes to the heart of why Scarborough has been called "a pioneer" and "the first academic critic of science fiction" (Westfahl 293). Scarborough's criticism hails from a time of genre fluidity, long before the fantastic came to be neatly categorized into the labeled boxes of "science fiction," "fantasy," and "horror," and long before its history was meticulously delineated by the likes of Hugo Gernsback, J.O. Bailey, and Darko Suvin. Despite what some might construe as the book's theoretical datedness, Scarborough did identify the scientific supernatural as "a lineal descendant of the Gothic and thus part of the established literary tradition" (Clareson 92). And she was among the first to understand that the "sorcerer has given place to the bacteriologist and the botanist ... and it is from the laboratory that the ghostly stores are now evolved rather than from the vault or the charnel-room as in the past" (251-52). Today, perhaps her greatest claim to fame is that she offers us a glimpse into an sf history that never was, another path the genre might have taken, by showcasing a host of new authors and works—not only writers such as Edgar Allan Poe and H.G. Wells but also many others such as Barry Pain, Algernon Blackwood, and Josephine Daskam Bacon. One could even argue that the book's somewhat undifferentiated approach to questions of genre underscores the extent to which Scarborough treats all forms of speculative fiction inclusively instead of exclusively—seeing them as "historically situated forms that constantly change shape and boundary" (Luckhurst 404). In this regard, the book also speaks to the shifting status of science itself, where certain "supernatural" tropes (such as communicating plants) once deemed to be purely magical have, in fact, become the subject of

cutting-edge scientific research today. Finally, more than anything else, Scarborough's essay should be viewed as a kind of exegetical time machine, transporting readers back to those pre-pulp years of the last century, where she offers eyewitness testimony that "there is a genuine revival of wonder in our time" (5) and that "one of the distinctive features of recent literature" is its use of science as "an excellent hook to hang supernatural tales upon" (251-52).

This essay was originally part of the author's PhD dissertation at Columbia University. Soon after, it appeared as a chapter in her book *The Supernatural in Modern English Fiction* (New York: G.P. Putnam's Sons, 1917): 251-80. The book is available online as file #47204 in Project Gutenberg. A dozen or so footnotes citing book titles have been incorporated into the text. All other matters of style remain unchanged from the original, as transcribed for Project Gutenberg. See the Notes at the end of the essay for documentation of her many in-text references.

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### Supernatural Science

The application of modern science to supernaturalism, or of the supernatural to modern science, is one of the distinctive features of recent literature. Ghostly fiction took a new and definite turn with the rapid advance in scientific knowledge and investigation in the latter part of the nineteenth century, for the work of Darwin, Spencer, Huxley, and their co-laborers did as much to quicken thought in romance as in other lines. Previous literature had made but scant effort to reflect even the crude science of the times, and what was written was so unconvincing that it made comparatively little impress. Almost the only science that Gothic fiction dealt with, to any noticeable extent, was associated with alchemy and astrology. The alchemist sought the philosopher's stone and the elixir of life while the astrologer tried to divine human destiny by the stars. Zofloya dabbled in diabolic chemistry, and Frankenstein created a man-monster that was noteworthy as an incursion into supernatural biology, yet they are almost isolated instances.<sup>1</sup> Now each advance in science has had its reflection in supernatural fiction and each phase of research contributes plot material, while some of the elements once considered wholly of the devil are now scientific. The sorcerer has given place to the bacteriologist and the botanist, the marvels of discovery have displaced miracles as basis for unearthly plot material, and it is from the laboratory that the ghostly stories are now evolved, rather than from the vault and charnel-room as in the past. Science not only furnishes extraordinary situations

for curdling tales, but it is an excellent hook to hang supernatural tales upon, for it gives an excuse for believing anything, however incredible.<sup>2</sup> Man is willing to accept the impossible, if he be but given a modern excuse for it. He will swallow the wildest improbability if the bait be labeled science or psychical research. No supernaturalism is incredible if it is expressed in technical terminology, and no miracle will be rejected if its setting be in a laboratory. One peculiar thing about modern scientific thought in its reaction upon fiction is that it is equally effective in realism, such as shown in the naturalistic novels of Zola, the plays of Brieux and others, and in supernaturalism, as in the work of H.G. Wells, for instance, where the ghostly is grafted on to cold realism.

The transition from the sorcerer, the wizard, the warlock of older fiction to the scientist in the present has been gradual. The sorcerer relied wholly upon supernatural, chiefly diabolic, agencies for his power, while the wizard of the modern laboratory applies his knowledge of molecules and gases to aid his supermortal forces. Modern science itself seems miraculous, so its employment in ghostly stories is but natural. The *Arabian Nights' Tales* seem not more marvelous than the stories of modern investigations. Hawthorne's narratives stand between the old and the new types of science, his Rappaccini, Dr. Heidigger, Gaffer Dolliver, Septimius Felton and his rivals in search for the elixir of youth, as well as the husband who sought to efface the birthmark from his young wife's cheek, being related in theme to the older conventional type and in treatment to the new.<sup>3</sup> Poe's scientific stories are more modern in method and material, and in fact he made claim of originality of invention for the idea of making fiction plausible by the use of scientific laws. His *Descent into the Maelstrom*, *MS. Found in a Bottle*, and other stories were novel in the manner in which they united the scientifically real and the supernatural. *The Pit and the Pendulum*, with its diabolical machinery, is akin to the modern mechanistic stories rather than to anything that had preceded it. Poe paved the way for H.G. Wells's use of the ghostly mechanical and scientific narratives, as his stories of hypnotism with its hideous aftermath of horror must have given suggestion for Arthur Machen's revolting stories of physical operations with unearthly consequences.<sup>4</sup> An example of the later manifestations of supernaturalism in connection with science is in Sax Rohmer's tales of Fu-Manchu, the Chinese terror, the embodied spirit of an ancient evil that entered into him at his birth, because of his nearness to an old burying-ground, and who, to his unholy alliance unites a wizard knowledge of modern science in its various aspects. With every power of cunning and intellect intensified, with a technical knowledge of all means with which to fight his enemies, he ravages society as no mere sorcerer of early fiction could do.<sup>5</sup>

The modern stories of magic have a skillful power of suggestiveness, being so cunningly contrived that on the surface they seem plausible and natural, with nothing supernatural about them. Yet behind this seeming simplicity lurks a mystery, an unanswered question, an unsolved problem. W.W. Jacobs's *The Monkey's Paw*, for instance, is one of the most effectively terrible stories of

magic that one could conceive of. The shriveled paw of a dead monkey, that is believed by some to give its possessor the right to have three wishes granted, becomes the symbol of inescapable destiny, the Weird, or Fate of the old tragedy, though the horrors that follow upon the wishes' rash utterance *may* be explained on natural grounds. The insidious enigma is what makes the story unforgettable. Barry Pain's *Exchange* might be given as another example of problematic magic that owes its power to elusive mystery.<sup>6</sup> The witch-woman, the solitary Fate, who appears to persons offering them such dreadful alternatives, might be conceived of as the figment of sick brains, yet the reader knows that she is not.

Richard Middleton's *The Coffin Merchant* seems simple enough on the surface, and the literal-minded could explain the occurrence on normal grounds, yet the story has a peculiar haunting supernaturalism.<sup>7</sup> A coffin merchant claims to be able to know who among passers-by will die soon, and hands a man an advertisement for a coffin, asserting that he will need it. The man later goes to the shop to rebuke the merchant for his methods but ends by signing a contract for his own funeral. On leaving, he shakes hands with the dealer, after which he unconsciously puts his hand to his lips, feeling a slight sting. He dies that night—of what? Of poison, of fear, of supernatural suggestion, or in the natural course of events? The series called *The Strange Cases of Dr. Stanchion* by Josephine Daskam Bacon shows instances occurring among the clientele of a famous brain specialist, where the materialist might put aside the explanation of the supernatural, only to be confronted by still greater problems.<sup>8</sup> The relation between insanity and ghostliness in recent fiction is significant and forms the crux of many a story since Poe. Mrs. Bacon's *The Miracle*, for instance, has its setting in an insane asylum, but the uncanny happenings almost convince us of the sanity of the patients and the paranoia of the outsiders. We come to agree with the specialist that every person is more or less a paranoiac, and none more so than he who scoffs at the supernatural.

Another aspect of the transfer of magic in modern fiction to a scientific basis is that of second sight or supernatural vision. This motif still retains all its former effect of the unearthly, perhaps gaining more, since the scientific twist seems to give the idea that the ghostly power resides in the atoms and molecules and gases and machines themselves, rather than in the person who manipulates them, which is more subtly haunting in its impression. Second sight has been used as a means for producing uncanny effects all along the line of fiction. Defoe even used it in a number of his hoax pamphlets, as well as in his *History of Duncan Campbell*, and folk-lore is full of such stories, especially in the Highlands.<sup>9</sup>

The modern use of supernatural vision is based apparently on natural science, which makes the weird power more striking. *The Black Patch* by Randolph Hartley tells of an experiment in optics that produces a strange result. Two students exchange left eyeballs for the purpose of studying the effects of the operation, leaving the right eye in each case unimpaired. When the young men recover from the operation and the bandages are removed, they

discover that an extraordinary thing has taken place. The first, while seeing with his right eye his own surroundings as usual, sees also with his left—which is his friend's left, that is—what that friend is looking at with his right eye, thousands of miles away. The severing of the optic nerve has not disturbed the sympathetic vision between the companion eyes, so this curious double sight results. In a quarrel arising from this peculiar situation, the first man kills the second, and sees on his left eye the hideous image of his own face distorted with murderous rage, as his friend saw it, which is never to be effaced, because the companion eye is dead and will see no more.<sup>10</sup>

Another instance of farsightedness is told in John Kendrick Bangs's *The Speck on the Lens*, where a man has such an extraordinary left eye that when he looks through a lens he sees round the world, and gets a glimpse of the back of his own head which he thinks is a speck on the lens. Only two men in the world are supposed to have that power.<sup>11</sup>

*The Remarkable Case of Davidson's Eyes* by H.G. Wells is an interesting example of this new scientific transference of magic vision. Davidson is working in a laboratory which is struck by lightning, and after the shock he finds himself unable to visualize his surroundings, but instead sees the other side of the world, ships, a sea, sands. The explanation given by a professor turns on learned theories of space and the Fourth Dimension. He thinks that Davidson, in stooping between the poles of the electro-magnet, experienced a queer twist in his mental retinal elements through the sudden force of the lightning. As the author says: "It sets one dreaming of the oddest possibilities of intercommunication in the future, of spending an intercalary five minutes on the other side of the world, of being watched in our most secret operations by unexpected eyes." Davidson's vision comes back queerly, for he begins to see the things around him by piecemeal, as apparently the two fields of vision overlap for a time.

Brander Matthews in *The Kinetoscope of Time* introduces an instrument with eyepieces that show magic vision. The beholder sees scenes from the past, from literature as well as from life, has glimpses of Salome dancing, of Esmerelda, witnesses the combat between Achilles and Hector, the tourney between Saladin and the Knight of the Leopard. The magician offers to show him his future—for a price—but he is wise enough to refuse.<sup>12</sup>

Magic views of the future constitute an interesting aspect of the supernatural vision in modern stories. *The Lifted Veil* by George Eliot is an account of a man who has prophetic glimpses of his fate, which seem powerless to warn him, since he marries the woman who he knows will be his doom, and he is aware that he will die alone, deserted even by his servants, yet cannot help it. He sees himself dying, with the attendants off on their own concerns, knows every detail beforehand, but unavailingly.<sup>13</sup> This suggests *Amos Judd* by J.A. Mitchell, which is a curious instance of the transition stage of second sight, related both to the old sorcerer type and to the new scientific ideas. Amos Judd, so called, is the son of an Indian rajah, sent out of his country because of a revolution, and brought up in ignorance of his birth in a New England farmhouse. Vishnu, in the far past, has laid his finger on the

brow of one of the rajah's ancestors, thereby endowing him with the gift of magic vision, which descends once in a hundred years to some one of his line. Amos Judd therefore, can see the future by pictures, beholding clearly everything that will happen to him. He sees himself lying dead at a desk, on which stands a calendar marking the date, November 4th. His friends persuade him to live past the date, and they think all is well, till one day while he is on a visit to a strange house he is killed by an assassin. They find him lying at a desk, with an out-of-date calendar beside him, marking November 4th.<sup>14</sup>

Barry Pain endows a bulldog with the power to foretell the future, to reveal disaster and oppose it. Zero, in the story by that name, is a common bulldog greatly valued because he has a supernatural knowledge of any evil that threatens those he loves, and by his canine sagacity he forestalls fate. In the end, in protecting his master's little child, he is bitten by a mad dog, whose coming he has supernaturally foreseen, and he commits suicide as the only way out of the difficulty.<sup>15</sup> Arthur Machen in *The Bowmen and Others* tells varied stories of supernatural vision associated with the war.<sup>16</sup>

*The Door in the Wall* by H.G. Wells depicts a man who in his dreamy childhood wanders into a secret garden where he is shown the book of his past and future, but who afterwards is unable to find the door by which he enters, though he seeks it often. Later in life, at several times when he is in a special haste to reach some place for an important appointment, he sees the door, but does not enter. Finally he goes in to his death. This is an instance of the suggestive supernaturalism associated with dreams and visions.<sup>17</sup>

The use of mirrors in supernatural vision is significant and appears in a number of ways in modern fiction. Scott's *My Aunt Margaret's Mirror* is an early instance, where the magician shows the seeker a glass wherein she sees what is taking place in another country, sees her husband on his way to the altar with another woman, sees a stranger stop the marriage, and witnesses the fatal duel.<sup>18</sup> Hawthorne has used mirrors extensively as symbolic of an inner vision, of a look into the realities of the soul. For instance, when poor Feathertop, the make-believe man, the animated scarecrow, looks into the mirror he sees not the brave figure the world beholds in him, but the thing of sticks and straw, the sham that he is, as the minister shrinks from the mirrored reflection of the black veil, symbol of mystery that he wears. Hawthorne elsewhere speaks of Echo as the voice of the reflection in a mirror, and says that our reflections are ghosts of ourselves.<sup>19</sup> Mr. Titbottom, in George William Curtis's *Prue and I*, who has the power of seeing into the souls of human beings by means of his magic spectacles and catching symbolic glimpses of what they are instead of what they appear to be, beholds himself in a mirror and shrinks back aghast from the revelation of his own nature.<sup>20</sup> Barry Pain's story, referred to in another connection, shows a mirror wherein a supernatural visitant reveals to a young man the supreme moments of life, his own and those of others, pictures of the highest moments of ecstasy or despair, of fulfillment of dear dreams.<sup>21</sup>

*The Silver Mirror* by A. Conan Doyle represents a man alone night after night, working with overstrained nerves on a set of books, who sees in an

antique mirror a strange scene re-enacted and finds later that the glass has once belonged to Mary, Queen of Scots, and that he has seen the murder of Rizzio.<sup>22</sup> Brander Matthews also has a story concerned with re-created images in an old mirror. The looking-glass in fiction seems to be not only a sort of hand conscience, as Markheim calls it, but a betrayer of secrets, a revealer of the forgotten past, a prophet of the future as well. It is also a strange symbol to show hearts as they are in reality, reflecting the soul rather than the body. It is employed in diverse ways and is an effective means of supernatural suggestion, of ghostly power.

The Fourth Dimension is another motif that seems to interest the writers of recent ghostly tales. They make use of it in various ways and seem to have different ideas concerning it, but they like to play with the thought and twist it to their whim. Ambrose Bierce has a collection of stories dealing with mysterious disappearances, in which he tells of persons who are transferred from the known, calculable space to some "non-Euclidean space" where they are lost. In some strange pockets of nowhere they fall, unable to see or to be seen, to hear or to be heard, neither living nor dying, since "in that space is no power of life or of death." It is all very mysterious and uncanny. He uses the theme as the basis for a number of short stories of ghostly power, which offer no solution but leave the mystery in the air. In some of these stories Bierce represents the person as crying out, and being heard, but no help can go, because he is invisible and intangible, not knowing where he is nor what has happened to him.<sup>23</sup> H.G. Wells, in *The Plattner Case*, which shows an obvious influence of Bierce, gives a similar case. He explains the extraordinary happenings by advancing the theory that Plattner has changed sides. According to mathematics, he says, we are told that the only way in which the right and left sides of a solid body can be changed is by taking that body clean out of space as we know it, out of ordinary existence, that is, and turning it somewhere outside space. Plattner has been moved out into the Fourth Dimension and been returned to the world with a curious inversion of body. He is absent from the world for nine days and has extraordinary experiences in the Other-World. This happens through an explosion in the laboratory where he is working, similarly to Wells's story of Davidson, where the infringement on the Fourth Dimension is the result of a lightning stroke.<sup>24</sup>

Mary Wilkins Freeman deals with the Fourth Dimension in *The Hall Bedroom*, where the boarder drifts off into unknown space, never to return, from gazing at a picture on the wall, as has happened in the case of previous occupants of the room.<sup>25</sup> Richard Middleton employs the same idea in a story of a conjurer who nightly plays a trick in public, causing his wife to seem to disappear into space. One night she actually does so vanish, never to be seen again.<sup>26</sup> Other instances of the form may be found in recent fiction. H.G. Wells uses the theme with a different twist in his *Time Machine*. Here the scientist insists that time is the Fourth Dimension, that persons who talk of the matter ordinarily have no idea of what it is, but that he has solved it. He constructs a machine which enables him to project himself into the future or into the past, and sees what will happen or what has happened in other



centuries. He lives years in the space of a few moments and has amazing adventures on his temporal expeditions. But finally the Fourth Dimension, which may be thought of as a terrible Fate or inescapable destiny awaiting all who dally with it, gets him too, for he fails to return from one of his trips.<sup>27</sup> Another story tells of a man who by drinking quantities of green tea could project himself into the Fourth Dimension.<sup>28</sup>

A number of stories of scientific supernaturalism are concerned with glimpses into the future. *The Time Machine*, just mentioned, with its invasions of the unknown space and time, its trips into eternity by the agency of a miraculous vehicle, illustrates the method. The scientist finds that he can travel backwards or forwards, accelerating or retarding his speed as he will, and get a section of life in any age he wishes. He discovers that in the future which he visits many reforms have been inaugurated, preventive medicine established, noxious weeds eradicated, and yet strange conditions exist. Mankind has undergone a two-fold involution, the soft conditions of life having caused the higher classes to degenerate into flabby beings of no strength, while an underground race has grown up of horrible depraved nature, blind from living in subterranean passages, cannibalistic while the others are vegetarian. The lower classes are like hideous apes, while the higher are effeminate, relaxed. The traveler escapes a dire fate only by rushing to his machine and returning to his own time. Samuel Butler suggests that machines will be the real rulers in the coming ages, that man will be preserved only to feed and care for the machines which will have attained supernatural sensibility and power. He says that mechanisms will acquire feelings and tastes and culture, and that man will be the servant of steel and steam in the future, instead of master as now; that engines will wed and rear families which men, as slaves, must wait upon.<sup>29</sup>

Frank R. Stockton in *The Great Stone of Sardis* gives another supernatural scientific glimpse into the future, showing as impossibilities certain things that have since come to pass, while some of the changes prophesied as imminent are yet unrealized and apparently far from actualities.<sup>30</sup> Jack London's *Scarlet Plague* pictures the Earth returned to barbarism, since most of the inhabitants have been swept away by a scourge and the others have failed to carry on the torch of civilization.<sup>31</sup> H.G. Wells in *A Story of Days to Come* gives account of a tour into futurity, wherein the miracles of modern science work revolutions in human life, and in *When the Sleeper Awakes* he satirizes society, showing a topsy-turvy state of affairs in A.D. 2100. His *Dream of Armageddon* is a story of futurity wherein a man has continuous visions of what his experiences will be in another life far in the future. That life becomes more real to him than his actual existence, and he grows indifferent to events taking place around him while rent with emotion over the griefs to come in another age.<sup>32</sup> Of course, Edward Bellamy's *Looking Backward*, with its social and mechanistic miracles that now seem flat and tame to us, might be said to be the father of most of these modern prophecies of scientific futurity.<sup>33</sup> Samuel Butler's *Erewhon* contains many elements of impossibility in relation to life, and is a satire on society, though perhaps not, strictly speaking,

supernatural. These prophecies of the time to come are in the main intended as social satires, as symbolic analyses of the weaknesses of present life. They evince vivid imagination and much ingenuity in contriving the mechanisms that are to transform life, yet they are not examples of great fiction. Mark Twain reverses the type in his *Connecticut Yankee at King Arthur's Court*, for he shows a man of the present taking part in the life of the far past, managing to parody both medievalism and the Yankee character at once.<sup>34</sup> H.G. Wells is particularly interested in studying the unused forces of the world and fancying what would happen under other conditions. His play of scientific speculation has produced many stories that he does not greatly value now himself, but which are of interest as showing certain tendencies of fiction.<sup>35</sup>

Views of other planets form a feature of modern supernaturalism, for the writer now sets his stories not only on Earth, in heaven, and in hell but on other worlds besides. The astrologer of ancient fiction, with his eye fixed ever on the stars, seeking to discern their influence on human destiny, appears no more among us. He has been replaced by the astronomer who scans the stars yet with a different purpose in fiction. He wishes to find out the life of citizens of other planets rather than to figure out the fate of mortals on the Earth. Many stories of modern times cause new planets to swim into our literary ken and describe their citizens with ease.<sup>36</sup> H.G. Wells stars here as elsewhere. In his *War of the Worlds* he depicts a struggle between the Earth people and the Martians, in which many supernatural elements enter. The people of Mars are a repulsive horde of creatures, yet they have wonderful organization and command of resources, and they conquer the Earth to prey upon it. This book has suffered the inevitable parody as in *The War of the Wenuses* by C.L. Graves and E.V. Lucas. In *The Crystal Egg* Wells describes a curious globe in which the gazer can see scenes reflected from Mars.<sup>37</sup> The author suggests two theories as to the possibility of this—either that the crystal is in both worlds at once, remaining stationary in one and moving in the other, and that it reflects scenes in Mars so that they are visible on Earth, or else that by a peculiar sympathy with a companion globe on the other planet it shows on its surface what happens in the other world. It is hinted that the Martians have sent the crystal to the Earth in order that they might catch glimpses of our life.

In *The Star* Wells gives yet another story of the future, of other planetary influences. By the passing of a strange star, life on Earth is convulsed and conditions radically changed. These conditions are observed by the astronomers on Mars, who are beings different from men, yet very intelligent. They draw conclusions as to the amount of damage done to the Earth, satirizing human theories as to Mars. *The Days of the Comet* shows earthly life changed by the passing of a comet, but instead of the destruction described in the other story, the social conditions are vastly improved and a millennium is ushered in. Wells in *The First Men in the Moon* makes a voyage to the Moon possible by the discovery of a substance which resists gravity. Other instances might be given, for there has been no lack of lunar literature, but they are not usually worth much.<sup>38</sup>

Du Maurier's *The Martian*, which combines the elements of metempsychosis, automatic writing, and dream-supernaturalism with the idea of ghostly astronomy, tells of a supernatural visitant from Mars. The Martian is a young woman whose spirit comes to inhabit a young man to whom she dictates wonderful books in his dreams. She writes letters to him in a sort of private code, in which she tells of her previous incarnations on Mars, of the Martians who are extraordinary amphibious beings, descended from a small sea animal. They have unusual acuteness of senses with an added sixth sense, a sort of orientation, a feeling of a magnetic current, which she imparts to her protégé, Barty Joscelyn.<sup>39</sup> Jack London in *The Star Rover* tells a story of interplanetary metempsychosis, where the central character, a prisoner in San Quentin, finds himself able to will his body to die at times, thus releasing his spirit to fly through space and relive its experiences in previous incarnations.<sup>40</sup>

Barry Pain's *The Celestial Grocery* is a phantasy of insanity and the supernatural, with its setting on two planets. It contains a cab horse that talks and laughs, and other inversions of the natural. A man is taken on a journey to another world, sees the stars and the Earth in space beneath him, and finds everything different from what he has known before. People there have two bodies and send them alternately to the wash, though they seldom wear them. The celestial shop sells nothing concrete, only abstractions, emotions, experiences. One may buy measures of love, requited or unselfishly hopeless, of political success, of literary fame, or of power or what-not. Happiness is a blend, however, for which one must mix the ingredients for himself. The story is symbolic of the ideals of Earth, with a sad, effective satire. The end is insanity, leaving one wondering how much of it is pure phantasy of a mad man's brain or how much actuality. It is reminiscent of Hawthorne's Intelligence Office with its symbolic supernaturalism.<sup>41</sup>

Hypnotism enters largely into the fiction of modern times. Hypnotism may or may not be considered as supernatural, yet it borders so closely onto the realm of the uncanny, and is so related to science of to-day as well as to the sorcery of the past, that it should be considered in this connection for it carries on the traditions of the supernatural. In its earlier stages hypnotism was considered as distinctly diabolic, used only for unlawful purposes, being associated with witchcraft. It is only in more recent times that it has been rehabilitated in the public mind and thought of as a science which may be used for helpful ends. It is so mysterious in its power that it affords complications in plenty for the novelist and has been utilized in various ways. In some cases, as F. Marion Crawford's *The Witch of Prague*, it is associated still with evil power and held as a black art. Unorna has an unearthly power gained through hypnotism which is more than hypnotic, and which she uses to further her own ends. Strange scientific ideas of life and of death are seen here, and someone says of her: "You would make a living mummy of a man. I should expect to find him with his head cut off and living by means of a glass heart and thinking through a rabbit's brain." She embalms an old man in a continuous hypnotic lethargy, recalling him only at intervals to do mechanically the things necessary to prolong life. She is trying to see if she

can cause human tissue to live forever in this embalmed state, hoping to learn through it the secret of eternal life.<sup>42</sup> This, of course, suggests Poe's stories of the subject, *Mesmeric Revelations* and *The Facts in the Case of M. Waldemar*. The latter is one of the most revolting instances of scientific supernaturalism, for the dying man is mesmerized in the moment of death and remains in that condition, dead, yet undecaying, and speaking, repeating with his horrible tongue the statement, "I am dead." After seven months, further experiments break the spell, and he, pleading to be allowed to be at peace in death, falls suddenly away into a loathsome, liquid putrescence before the eyes of the experimenters.

*The Portent* by George MacDonald is a curious study of hypnotic influence, of a woman who is her true self only when in a somnambulistic state. A supernatural connection of soul exists between her and a youth born on the same day, and it is only through his hypnotic aid that she gains her personality and sanity.<sup>43</sup> James L. Ford plays with the subject by having a group of persons in an evening party submit themselves to be hypnotized in turn, each telling a true story of his life while in that condition.<sup>44</sup> W.D. Howells combines mesmerism with spiritualism in his novel *The Undiscovered Country* where the séances are really the result of hypnotism rather than supernatural revelation as the medium thinks.<sup>45</sup> H.G. Wells has used this theme, as almost every other form of scientific ghostliness, though without marked success.<sup>46</sup> The prize story of hypnotism, however, still remains Du Maurier's *Trilby*, for no mesmerist in this fiction has been able to outdo Svengali.<sup>47</sup>

Uncanny chemistry forms the ingredient for many a modern story. The alchemist was the favored feature of the older supernatural fiction of science, and his efforts to discover the philosopher's stone and to brew the magic elixir have furnished plots for divers stories. He does not often waste his time in these vain endeavors in recent stories, though his efforts have not altogether ceased, as we have seen in a previous chapter. A. Conan Doyle in *The Doings of Reffles Haw* is among the last to treat the theme, and makes the scientist find his efforts worse than useless, for the research student finds that his discovery of the art of making gold is disturbing the nice balance of nature and bringing injury to those he meant to help, so he destroys his secret formula and dies.<sup>48</sup> *The Elixir of Youth* illustrates the transference of power from the sorcerer to the scientist, for the magician that gives the stranger a potion to restore his youth tells him that he is not a sorcerer, not a diabolic agent, but a scientist learning to utilize the forces that are at the command of any intelligence.<sup>49</sup>

Barry Pain's *The Love Philter* is related both to the old and the new types of supernatural chemistry. A man loves a woman who doesn't care, so he asks aid of a wise woman, who gives him a potion that will surely win the stubborn heart. As he lies asleep in the desert, on his way back, he dreams that his love says to him that love gained by such means is not love, so he pours the liquid on the sand. When he returns, the woman tells him that she has been with him in his dreams and loves him because he would not claim her wrongly. *Blue*

*Roses* is another of his stories of magic that bring love to the indifferent.<sup>50</sup> *Twilight* by Frank Danby is a novel based on the relation between morphia and the supernatural. A woman ill of nervous trouble, under the influence of opiates, continually sees the spirit of a woman dead for years, who relives her story before her eyes, so that the personalities are curiously merged.<sup>51</sup> This inevitably suggests De Quincey's *Confessions of an English Opium-Eater* with its dream-wonders, yet it has a power of its own and the skillful blending of reality with dream-supernaturalism and insanity has an uncanny distinction.<sup>52</sup>

Fu-Manchu, the Chinese wonder-worker in Sax Rohmer's series of stories bearing that name, is a representative example of the modern use of chemistry for supernormal effect. He employs all the forces of up-to-the-minute science to compass his diabolic ends and works miracles of chemistry by seemingly natural methods. By a hypodermic injection he can instantly drive a man to acute insanity incurable save by a counter-injection which only Fu-Manchu can give, but which as instantly restores the reason. By another needle he can cause a person to die—to all intents and purposes, at least—and after the body has been buried for days he can restore it to life by another prick of the needle. He terrorizes England by his infernal powers, killing off or converting to slavery the leading intelligences that oppose him.

Stevenson's *Dr. Jekyll and Mr. Hyde* is perhaps the best-known instance of chemical supernaturalism.<sup>53</sup> Here the magic drug not only changes the body, evolving from the respectable Dr. Jekyll his baser self in the form of Mr. Hyde, enabling him to give rein to his criminal instincts without bringing reproach on his reputation, but has the subtle power to fix the personality of evil, so that each time the drug is used Hyde is given a stronger force and Jekyll is weakened. This fictive sermon on dual nature, the ascendance of evil over the nobler soul if it be indulged, seems yet an appallingly real story of human life. In a similar fashion Arthur Machen uses supernatural chemistry most hideously in *The Three Impostors*, where a certain powder perverts the soul, making man a sharer in the unspeakable orgies of ancient evil forces.<sup>54</sup>

*The Invisible Man* by H.G. Wells shows an unusual application of chemistry to ghostly fiction that gives a peculiar effect of reality because its style is that of scientific realism. By experimentation with drugs a man finds a combination that will render living tissue absolutely invisible. When he swallows a portion of it, he cannot be seen. His clothes appear to be walking around by themselves and the complications are uncanny. As one may see, the comic possibilities are prominent and for a time we laugh over the mystification of the persons with whom he comes in contact, but soon stark tragedy results. During the man-chase, as the hunted creature seeks to escape, the people hear the thud-thud of running steps, watch bloody footprints form before their eyes, yet see nothing else. Here is a genuine thrill that is new in fiction. The man gradually becomes visible, but only in death is his dreadful figure seen completely again. This modern method of transferring to science the idea of invisibility so prominent in connection with ghosts, showing the invisibility as the result of a chemical compound, not of supernatural

intervention, affecting a living man not a spirit, makes the effect of supernaturalism more vivid even than in the case of ghosts.<sup>55</sup>

These are only suggestions of the varied uses to which chemistry has been put in producing ghostly plots and utilizing in novel ways the conventional motifs of older stories. These themes are more popular now than they would have been half a century ago because now the average reader knows more about scientific facts and is better prepared to appreciate them. A man ignorant of chemistry would care nothing for the throes of Dr. Jekyll or the complicating experiences of the invisible man, because he would have slight basis for his imagination to build upon. Each widening of the popular intelligence and each branch of science added to the mental store of the ordinary reader is a distinct gain to fiction.

Supernatural biology looms large in modern fiction, though it is not always easy to differentiate between the predominance of chemical and biological motifs. In many cases the two are tangled up together, and as, in the stories of dual personality and invisibility just mentioned, one may not readily say which is uppermost, the biological or the chemical side, for the experiments are of the effects of certain drugs upon living human tissue. There are various similar instances in the fiction of scientific supernaturalism. Hawthorne's *The Birthmark* is a case of chemical biology, where the husband seeking to remove by powerful drugs the mark from his wife's cheek succeeds in doing so but causes her death. Here the supernaturalism is symbolic, suggested rather than boldly stated, as is usually the case with Hawthorne's work.<sup>56</sup>

In *The Los Amigos Fiasco* A. Conan Doyle shows supernaturalism based on the effect of electricity on the body, for the lynchers in trying to kill a man by connecting him with a dynamo succeed in so magnetizing him that he can't be killed in any way.<sup>57</sup> Sax Rohmer tells one Fu-Manchu story of a mysterious murder committed by means of an imprisoned gas that escapes from a mummy case and poisons those exposed to it, and, in another, he introduces a diabolic red insect attracted by the scent of a poisonous orchid, that bites the marked victim.<sup>58</sup>

Wells's *The Island of Dr. Moreau* is a ghastly study in vivisection. Two scientists on a remote island with no other human inhabitants try unspeakable experiments on animals, trying by pruning and grafting and training the living tissue to make them human. They do succeed in a measure, for they teach the beasts to talk and to observe a sort of jungle law laid down by man, yet the effect is sickening. The animals are not human and never can be, and these revolting experiments deprive them of all animal dignity without adding any of the human. In the end they revert to savagery, becoming even more bestial than before.<sup>59</sup> The most dreadful biological experiments in recent fiction are described in Arthur Machen's volume of short stories, *The House of Souls*. In one story an operation on the brain enables a victim to "see the great god Pan," to have revelations of ancient supernaturalism wherein Pan and the devil are united in one character. In another, a delicate cutting of the brain removes the soul—which takes the form of a wonderful jewel—and utterly diabolizes the character. These curious and revolting stories are advanced instances of

scientific diabolism and leave a smear on the mind. They are more horrible than the creation of Frankenstein's man-monster, for here moral monsters are evolved.<sup>60</sup>

Medicated supernaturalism associated with prenatal influence occurs in various stories where a supernormal twist is given because of some event out of the ordinary. Ambrose Bierce's *The Eyes of the Panther* is a story of a young woman who is a panther for part of the time as a result of a shock, is associated with the snake nature of Elsie Venner.<sup>61</sup> Barry Pain's *The Undying Thing* is one of the most horrible of such complications, for because of a mother's fright over a pack of wolves a monster is born, neither wolf nor human, neither animal nor man, neither mortal nor immortal. It is hidden in a secret cave to die, yet lives on, though not living, to fulfil a curse upon the ancient house.<sup>62</sup> A. Conan Doyle's *The Terror of Blue John Gap* is a story of a monstrous animal, like a bear yet bigger than an elephant, that ravages the countryside. The theory for its being is that it is a survival, in a subterranean cave, of a long-extinct type, from prehistoric times, that comes out in its blindness to destroy. There are other examples of supernormal animals in modern fiction, yet these suffice to illustrate the *genre*.<sup>63</sup>

Botany furnishes its ghostly plots in fiction as well as other branches of science, for we have plant vampires and witches and devils. Trees and flowers are highly psychic and run a gamut of emotions. Hawthorne shows us supernatural plants in several of his novels and stories, such as the mysterious plant growing from a secret grave, which has a strange poisonous power, or the flowers from Gaffer Dolliver's garden that shine like jewels and lend a glow to the living face near them, when worn on a woman's breast.<sup>64</sup> In *Rappaccini's Daughter* the garden is full of flowers of subtle poison, so insidious that their venom has entered into the life of the young girl, rendering her a living menace to those around her. She is the victim of her father's dæmonic experiments in the effects of poison on the human body, and her kiss means death.<sup>65</sup> Algernon Blackwood in *The Man whom the Trees Loved* tells of the uncanny power of motion and emotion possessed by the trees, where the forest exercises a magnetic force upon human beings sympathetic to them, going out after men and luring them to their fate. He describes the cedar as friendly to man and attempting but in vain to protect him from the creeping malignant power of the forest.<sup>66</sup>

Fu-Manchu, Sax Rohmer's Chinese horror, performs various experiments in botany to further his dreadful ends. He develops a species of poisonous fungi till they become giant in size and acquire certain powers through being kept in the darkness. When a light is turned on them, the fungi explode, turning loose, on the men he would murder, fumes that drive them mad. From the ceiling above are released ripe spores of the giant Empusa, for the air in the second cellar, being surcharged with oxygen, makes them germinate instantly. They fall like powdered snow upon the victims and the horrible fungi grow magically, spreading over the writhing bodies of the mad-men and wrapping them in ghostly shrouds. In *The Flower of Silence* he describes a strange orchid that has the uncanny habit of stinging or biting when it is

broken or roughly handled, sending forth a poison that first makes a man deaf then kills him. Fu-Manchu introduces this flower into the sleeping-rooms of those he wishes to put out of the way, and sends them into eternal silence.<sup>67</sup> *The Flowering of the Strange Orchid* by H.G. Wells is the story of a murderous plant, a vampire that kills men in the jungle, and in a greenhouse in England sends out its tentacles that grip the botanist, drinking his blood and seeking to slay him. This orchid has the power to project its vampiric attacks when it is a shriveled bulb or in the flower.<sup>68</sup> This reminds us of Algernon Blackwood's story of the vampire soil, which after its psychic orgy burst into loathsome luxuriant bloom where before it had been barren.<sup>69</sup>

It is a curious heightening of supernatural effect to give to beautiful flowers diabolical cunning and murderous motives, to endow them with human psychology and devilish designs. The magic associated with botany is usually black instead of white. One wonders if transmigration of soul does not enter subconsciously into these plots, and if a vampire orchid is not a trailing off of a human soul, the murderous blossom a revenge ghost expressing himself in that way. The plots in this type of fiction are wrought with much imagination and the scientific exactness combined with the supernatural gives a peculiar effect of reality.

There are varied forms of supernatural science that do not come under any of the heads discussed. The applications of research to weird fiction are as diverse as the phases of investigation and only a few may be mentioned to suggest the variety of themes employed. Inversion of natural laws furnishes plots—as in Frank R. Stockton's *Tale of Negative Gravity* with its discovery of a substance that enables a man to save himself all fatigue by means of a something that inverts the law of gravity. With a little package in his pocket a man can climb mountains without effort, but the discoverer miscalculates the amount of energy required to move and finally rises instead of staying on the earth, till his wife has to fish him into the second-story window.<sup>70</sup> Poe's *Loss of Breath* illustrates another infringement of a natural law, as do several stories where a human being loses his shadow.<sup>71</sup>

In *The Diamond Lens* Fitz-James O'Brien tells of a man who looking at a drop of water through a giant microscope sees in the drop a lovely woman with whom he falls madly in love, only to watch her fade away under the lens as his despairing eyes see the water evaporate.<sup>72</sup> In *The Spider's Eye* by Lucretia P. Hale, supernatural acoustics enters in the story of a man who discovers the sound-center in an opera house and reads the unspoken thoughts of those around him. He applies the laws of acoustics to mentality and spirituality, making astounding discoveries.<sup>73</sup> Bram Stoker combines superstition with modern science in his books, as in *The Jewel of Seven Stars* where Oriental magic is used to fight the encroachments of an evil force emanating from a mummy, as also to bring the mummy to life, while a respirator is employed to keep away the subtle odor. He brings in blood transfusion together with superstitious symbols, to combat the ravages of vampires in *Dracula*.<sup>74</sup> Blood transfusion also enters into supernaturalism in



Stephen French Whitney's story, where a woman who has been buried in a glacier for two thousand years is recalled to life.<sup>75</sup>

*The Human Chord* by Algernon Blackwood is a novel based on the psychic values of sounds, which claims that sounds are all powerful, are everything—for forms, shapes, bodies are but vibratory activities of sound made visible. The research worker here believes that he who has the power to call a thing by its proper name is master of that thing, or of that person, and that to be able to call the name of Deity would be to enable one to become as God. He seeks to bring together a human chord, four persons in harmony as to voice and soul, who can pronounce the awful name and become divine with him. He can change the form or the nature of anything by calling its name, as a woman is deformed by mispronunciation, and the walls of a room expanded by his voice. He can make of himself a dwarf or a giant at will, by different methods of speaking his own name. He says that sound could re-create or destroy the universe. He has captured sounds that strain at their leashes in his secret rooms, gigantic, wonderful. But in the effort to call upon the mighty Name he mispronounces it, bringing a terrible convulsion of nature which destroys him. The beholders see an awful fire in which Letters escape back to heaven in chariots of flame.<sup>76</sup> Psychology furnishes some interesting contributions to recent fiction along the line of what might be called momentary or instantaneous plots. Ambrose Bierce's *The Occurrence at Owl Creek Bridge* is a good example—where a man is being hanged and in the instant between the drop from the bridge and the breaking of the neck he lives through long and dramatic adventures, escaping his pursuers by falling into the river and swimming ashore, reaching home at last to greet his wife and children. Yet in a second his lifeless body swings from the bridge.<sup>77</sup> *The Warning* by Josephine Daskam Bacon shows the case of a man who lives years in another country during a few moments of acute mental strain carried to the point of paranoia.<sup>78</sup> Barry Pain has a story where in the time in which a man drives home from the theater he visits another planet and changes the current of his life, while Algernon Blackwood compresses a great experience into a few minutes of dreaming.<sup>79</sup>

One noteworthy point in connection with the scientific supernaturalism is that these themes appear only in novels and short stories. They do not cross over into poetry as do most of the other forms of the ghostly art. Perhaps this is because the situations are intellectual rather than emotional, brain-problems or studies in mechanisms rather than in feelings or emotions. The province of science is removed from that of poetry because the methods and purposes are altogether different. The scientific methods are clear-cut, coldly intellectual. Science demands an exactness, a meticulous accuracy hostile to poetry which requires suggestion, vagueness, veiled mystery for its greatest effect. *The Flower of Silence*, for instance, would be a fitting title for a poem, but the poetic effect would be destroyed by the need for stating the genus and species of the orchid and analyzing its destruction of human tissue. Nature's mysterious forces and elements in general and vaguely considered, veiled in mists of imagination and with a sense of vastness and beauty, are extremely

poetic. But the notebook and laboratory methods of pure science are antagonistic to poetry, though they fit admirably into the requirements of fiction, whose purpose is to give an impression of actuality.<sup>80</sup>

Another reason why these scientific themes do not pass over into poetry may be that scientific methods as we know them are new, and poetry clings to the old and established conventions and emotions. There is amazing human interest in these experiments, a veritable wealth of romance, with dramatic possibilities tragic and comic, yet they are more suited to prose fiction than to poetry. We have adapted our brain-cells to their concepts in prose, yet we have not thus molded our poetic ideas. It gives us a shock to have new concepts introduced into poetry. An instance of this clash of realism with sentiment is shown in a recent poem where the setting is a physics laboratory. Yet in a few more decades we may find the poets eagerly converting the raw materials of science into the essence of poetry itself, and by a mystic alchemy more wonderful than any yet known, transmuting intellectual problems of science into magic verse. *Creation* by Alfred Noyes is an impressive discussion of evolution as related to God.<sup>81</sup>

Perhaps another reason why these themes have not been utilized in poetry is because they are too fantastic, too bizarre. They lack the proportion and sense of artistic harmony that poetry requires. Strangeness and wonder are true elements of poetry, and magic is an element of the greatest art, but in solution as it were, not in the form observed in science. The miracles of the laboratory are too abrupt, too inconceivable save by intellectual analysis, and present too great a strain upon the powers of the imagination. They are fantastic, while true poetry is concerned with the fancy. Magic and wonder in verse must come from concepts that steal upon the imagination and make appeal through the emotions. Thus some forms of supernaturalism are admirably adapted to the province of poetry, such as the presence of spirits, visitations of angels or demons, ancient witchcraft, and so forth. The elements that have universal appeal through the sense of the supernatural move us in poetry, but the isolated instances, the peculiar problems that occur in scientific research if transferred to poetry would leave us cold. Yet they may come to be used in the next *vers libre*.<sup>82</sup>

Nor do these situations come over into the drama save in rare instances. Theodore Dreiser, in a recent volume, *Plays of the Natural and the Supernatural*, makes use of certain motifs that are striking and modern, as in *Laughing Gas* where a physician goes on the operating-table, the *dramatis personæ*, including Demyaphon (Nitrous Acid), and Alcepheron (a Power of Physics), as well as several Shadows, mysterious personages of vagueness. These Shadows here, as in *The Blue Sphere*, are not altogether clear as to motivation, yet they seem to stand for Fate's interference in human destiny. In the latter play Fate is also represented by a Fast Mail which is one of the active characters, menacing and destroying a child.<sup>83</sup>

One reason why these motifs of science are not used in drama to any extent is that they are impossible of representation on the stage. Even the wizardry of modern producers would be unable to show a Power of Physics,

or Nitrous Acid, save as they might be embodied, as were the symbolic characters in Maeterlinck's *Blue Bird*, which would mean that they would lose their effect.<sup>84</sup> And what would a stage manager do with the rhythm of the universe, which enters into Dreiser's play? Many sounds can be managed off stage, but hardly that, one fancies. These themes are not even found in closet drama, where many other elements of supernaturalism which would be difficult or impossible of presentation on the stage trail off. William Sharp's *Vistas*, for instance, could not be shown on the stage, yet the little plays in that volume are of wonderful dramatic power.<sup>85</sup> The drama can stand a good deal of supernaturalism of various kinds, from the visible ghosts and devils of the Elizabethans to the atmospheric supernaturalism of Maeterlinck, but it could scarcely support the presentations of chemicals and gases and supernatural botany and biology that fiction handles with ease. The miraculous machinery would balk at stage action. Fancy the Time Machine staged, for instance!

We notice in these scientific stories a widening of the sphere of supernatural fiction. It is extended to include more of the normal interests and activities of man than has formerly been the case. Here we notice a spirit similar to that of the leveling influence seen in the case of the ghosts, devils, witches, angels, and so forth, who have been made more human not only in appearance but in emotions and activities as well. Likewise these scientific elements have been elevated to the human. Supernatural as well as human attributes have been extended to material things, as animals are given supernormal powers in a sense different from and yet similar to those possessed by the enchanted animals in folk-lore. Science has its physical as well as psychic horrors which the scientific ghostly tales bring in.

Not only are animals gifted with supernatural powers but plants as well are humanized, diabolized. We have strange murderous trees, vampire orchids, flowers that slay men in secret ways with all the smiling loveliness of a treacherous woman. The dæmonics of modern botany form an interesting phase of ghostly fiction and give a new thrill to supernaturalism. Inanimate, concrete things are endowed with unearthly cunning and strength, as well as animals and plants. The new type of fiction gives to chemicals and gases a hellish intelligence, a diabolic force of minds. It creates machinery and gives it an excess of force, a supernatural, more than human cunning, sometimes helpful, sometimes dæmonic. Machines have been spiritualized and some engines are philanthropic while some are like damned souls.<sup>86</sup>

This scientific supernaturalism concerns itself with mortal life, not with immortality as do some of the other aspects of the *genre*. It is concrete in its effects, not spiritual. Its incursions into futurity are earthly, not of heaven or hell, and its problems are of time, not of eternity. The form shows how clear, cold intelligence plays with miracles and applies the supernatural to daily life. The enthusiasm, wild and exaggerated in some ways, that sprang up over the prospects of what modern science and investigation would almost immediately do for the world in the latter half of the nineteenth century, had no more interesting effect than in the stimulating of scientific fictive supernaturalism.

And though mankind has learned that science will not immediately bring the millennium, science still exercises a strong power over fiction. This type shows a strange effect of realism in supernaturalism, because of the scientific methods, for supernaturalism imposed on material things produces an effect of verisimilitude not gained in the realm of pure spirit. Too intellectually cold for the purposes of poetry, too abstract and elusive for presentation in drama, and too removed by its association with the fantastic aspects of investigation and the curiosities of science to be very appropriate for tragedy, which has hitherto been the chief medium of expressing the dramatic supernatural, science finds its fitting expression in prose fiction. It is an illustration of the widening range of the supernatural in fiction and as such is significant.

#### BRIEF BIOGRAPHY OF THE AUTHOR

Dorothy Scarborough (1878-1935) was born and raised in Texas, earning a BA and an MA from Baylor University in 1896 and 1899 and securing a teaching position there in the English department from 1905 to 1915. Her primary academic specialties were creative writing, poetry, and the study of folklore. She did graduate work at the University of Chicago and at Oxford University, and she later enrolled at Columbia University in New York where she taught mostly creative writing. She earned her PhD at Columbia in 1917 with a dissertation entitled "The Supernatural in Modern English Fiction," and it was accepted for publication that same year. She published a volume of poetry called *Fugitive Verses* in 1912, was an early member of the Texas Folklore Society (serving as president in 1914-15), edited two books of ghost stories in 1921 called *Famous Modern Ghost Stories* and *Humorous Ghost Stories*, published two folklore collections *On the Trail of Negro Folksongs* (1925) and *A Song Catcher in the Southern Mountains* (posthumous in 1937), and authored several novels, including *From a Southern Porch* (1919) and her most acclaimed work *The Wind* (1925), which was made into a movie in 1927 starring Lillian Gish. She died at her home in New York City in November 1935 and was buried in Waco, Texas.

#### NOTES ON THE TEXT

1. *Zofloya, or The Moor* (1806) is a British Gothic novel by Charlotte Dacre. Situated in fifteenth-century Venice, it tells the story of Victoria di Loredani, a member of a rich noble family who is an unrepentant hedonist and murderess. Among her many other transgressions, she has a passionate sexual liaison with her Moorish servant Zofloya. The novel is said to have influenced the work of Byron and Shelley.

2. Several years later, H.G. Wells would famously go on to explain his use of "scientific patter" in his sf stories, saying

For the writer of fantastic stories to help the reader to play the game properly, he must help him in every possible unobtrusive way to *domesticate* the impossible hypothesis. He must trick him into an unwary concession to some plausible assumption and get on with his story while the illusion holds. And that is where there was a certain slight novelty in my stories when they first appeared. Hitherto, except in exploration fantasies, the fantastic element was brought in by magic. Frankenstein even, used some jiggery-pokery magic to animate his artificial monster. There was trouble about the thing's soul. But by the end of the last century it had become difficult to squeeze even a momentary belief out of magic any longer. It occurred to me that instead of the usual interview with the devil or a magician, an ingenious use of scientific patter might with advantage be substituted. There was no great discovery. I simply brought the fetish stuff up to date, and made it as near actual theory as possible. ("Preface." *Seven Famous Novels by H.G. Wells*. Alfred A. Knopf, 1934. viii, emphasis in original)

Although Wells did not explicitly use the term, he was discussing the increased level of verisimilitude that resulted from recognizably scientific references.

3. The stories by Hawthorne referenced here are “Rappaccini’s Daughter” (1844), “Dr. Heidigger’s Experiment” (1837), *The Dolliver Romance* (unfinished, published in 1864), *Septimius Felton, or the Elixir of Life* (unfinished, published in 1872).

4. Pen-name of Arthur Llewellyn Jones, who was famous for his fantasy and horror fiction published during the late nineteenth and early twentieth centuries. The reference here is probably to Machen’s short stories “The White Powder” (1895) and “The Black Seal” (1895).

5. Sax Rohmer is the pen-name of Arthur Henry Ward, a British novelist who published over a dozen very popular Fu Manchu novels beginning in 1913. These works contributed to the “Yellow Peril” cultural stereotyping prevalent in American and European pop literature during the 1920s and 1930s.

6. A short story published in 1892 and not to be confused with Pain’s later novel *The Exchange of Souls* (1911), which features a mad scientist who creates a machine capable of swapping the personalities/souls of two individuals, with unexpected horrific results.

7. Published in the author’s 1912 collection *The Ghost Ship and Other Stories*.

8. Scarborough misspells the title of this 1913 novel: Stanchion should actually be Stanching.

9. The full title of this work is *History of the Life and Adventures of Mr. Duncan Campbell* (1720). It concerns a deaf man in London who was a famed fortune-teller and seer into the future. Although attributed to Daniel Defoe alone, this biography was most likely co-authored by William Bond (d. 1735).

10. For more on such “retinal” narratives, see Arthur B. Evans, “Optograms and Fiction: Photo in a Dead Man’s Eye.” *SFS* 20.3 (Nov. 1993): 341-61.

11. This 1894 short story was published in Bangs’s collection *The Water Ghost and Others* (1894).

12. Published in 1895 in *Scribner’s Magazine*. For more on the psychological esthetics of viewing early motion pictures, see Helen Groth, *Moving Images: Nineteenth-Century Reading and Screen Practices* (Edinburgh UP, 2013).

13. This short story was first published in 1859. For an analysis of it, see Sally Shuttleworth, “Introduction,” *The Lifted Veil and Brother Jacob* by George Eliot (Penguin Classics, 2001), xi-1.

14. Mitchell’s story was published in 1895. Scarborough slightly misremembers the conclusion of this novel. The hero Amos Judd does indeed die next to an out-of-date calendar marking November 4th, but he is not the victim of an assassin. He dies protecting his newlywed wife from two armed burglars who were stealing her grandmother’s ancestral silver.

15. The short story “Zero” was included in Pain’s collection *New Gulliver and Other Stories* (1913).

16. In “The Bowman,” a short story written and published by Machen in 1914, ghosts of English archers from the battle of Agincourt some five centuries before come to the aid of British troops fighting the Germans in Mons, Belgium. Soon after, a popular World War I real-world legend was born called the “Angels of Mons.”

17. It was first published in 1911 as part of the anthology *The Door in the Wall and Other Stories*. An analysis of this short story can be found in J.R. Hammond’s book *H.G. Wells and the Short Story* (Palgrave Macmillan, 1992), 125-31.

18. This short story by Sir Walter Scott first appeared in his *The Keepsake Stories* in 1828. Mirrors occupy an important place in the iconography of the supernatural.

See, for example, the entry "mirror" in *The Encyclopedia of Fantasy* by John Clute and John Grant (St. Martin's, 1999): 651.

19. Scarborough cites several Hawthorne tales here, including "Feathertop" (1852) and "The Minister's Black Veil" (1832), and also an entry in Hawthorne's personal diary—published posthumously in his *The American Notebooks* (1868). Another very relevant short story by Hawthorne is "Monsieur du Miroir" (1837), discussed in Sylvie L.F. Richards's article "Nathaniel Hawthorne's 'Monsieur du Miroir' Through Jacques Lacan's Looking Glass" *Nathaniel Hawthorne Review* 18 (1992): 15-20.

20. Published in 1856, Curtis's *Prue and I* ("Prue" being the diminutive of the female name "Prudence") features a collection of light-hearted short stories about everyday life in America during the mid-nineteenth century.

21. The story referred to here is Pain's "The Glass of Supreme Moments," published in 1892 in the collection *Stories and Interludes*. It features a young man who encounters a lovely woman who seduces him into gazing into a magic mirror "in which the highest instants of each man's life are shown" and which culminate in his death.

22. First published in *The Strand Magazine* in 1908.

23. Bierce published a brief explanatory article titled "Science to the Front," which appeared in his short-story collection *Can Such Things Be?* (1893, 1909). In seeking to provide a logical reason—the presence of a fourth dimension—for certain mysterious disappearances in his stories, one might argue that Bierce shifts these narratives from the realm of supernatural fiction to that of science fiction.

24. This Wells short story was actually titled "The Plattner Story" and was first published in 1896, one year after his popular novel *The Time Machine*, which made use of the concept of a fourth dimension to explain its functioning.

25. Collected in her 1903 anthology *The Wind in the Rose-Bush and Other Stories of the Supernatural*.

26. "The Conjuror," published in his posthumous collection *The Ghost Ship and Other Stories* in 1912.

27. For additional information about sf stories that focus on the fourth dimension, see Brian Stableford's *Science Fact and Science Fiction: An Encyclopedia* (Routledge, 2006): 192-93.

28. Although Scarborough's reference here remains unclear, the growing popularity of the idea of a fourth dimension in late-nineteenth-century British and American literature and culture—eventually leading to Einstein's theories a few decades later—was partly due to mathematician Charles H. Hinton and his many writings on the topic, including *Scientific Romances* (1884-86). See *Speculations on the Fourth Dimension: Selected Writings of Charles H. Hinton*, ed. Rudolf v. B. Rucker (Dover, 1980).

29. The reference here is to Butler's influential utopia *Erewhon, or Over the Range*, published anonymously in 1872. It was the first literary text—long before Karel Čapek's *R.U.R.* (1920)—to portray machines as inherently dangerous to human society because they might be capable of evolving to self-consciousness.

30. Stockton's sf novel, published in 1897 and set in 1947, is a futuristic adventure story that features an American hero named Roland Clewe, the greatest inventor-scientist in the world. Two of his most notable inventions are the "Artesian Ray" (similar to an X-Ray machine) and an underground mole-type vehicle for burrowing through the Earth (see Edgar Rice Burroughs's 1914 novel *At the Earth's Core*). Other hi-tech devices include electric automobiles, monorails, airplanes, moving roads and sidewalks, and an undersea telecommunications cable.

31. London's post-apocalyptic novel was first published in 1912 and describes the ravages of the "Scarlet Death," a virus that nearly wipes out humanity in 2012. Those

few who survive regress to living in a new world order based on tribal barbarism, greed, and ignorance. Other examples of pandemic fiction include Daniel Defoe's *A Journal of the Plague Year* (1722), Mary Shelley's *The Last Man* (1826), Edgar Allan Poe's "The Masque of the Red Death" (1842), Albert Camus's *La Peste* [The Plague, 1947], Michel Crichton's *The Andromeda Strain* (1969), Stephen King's *The Stand* (1978), Robin Cook's *Outbreak* (1987), and Max Brooks's *World War Z* (2006). These cautionary tales seem even more powerful today because of the rapid spread in 2020-21 of the dangerous coronavirus flu.

32. The publication dates of these Wells's narratives are 1899, 1898, and 1901 respectively.

33. The full title of Bellamy's utopian "scientific futurity" is *Looking Backward, 2000-1887* (1888). It became the third largest bestseller of its time.

34. Twain's famous but controversial tale was first published in 1889.

35. Scarborough is referring here to Wells's disparaging comments about his early works, which he first insisted on calling "fantastic and imaginative romances" rather than "scientific romances."

36. The final decades of the nineteenth century and the early years of the twentieth witnessed a veritable "Mars mania" in Europe and America. This sudden interest in all things Martian was largely the result of a mistranslation of the Italian astronomer Giovanni Schiaparelli's use of the word "canali" when completing a new and more accurate map of the red planet's surface. He intended the term to mean "channels" (natural geological formations, such as the English Channel) but it was widely understood to mean "canals" (artificially constructed waterways), the product of a once-advanced intelligent species. The books published on this subject by the wealthy Boston businessman and amateur astronomer Percival Lowell—such as *Mars* (1895) and *Mars as the Abode of Life* (1908)—made him an instant celebrity. And it was not long before sf authors on both sides of the Atlantic began to fictionalize the notion of a Martian race: Kurd Lasswitz's *The Two Planets* (1897), Wells's *The War of the Worlds* and Garrett Serviss's *Edison's Conquest of Mars* (both in 1898), Edwin Arnold's *Gulliver of Mars* (1905), Gustave Le Rouge's two-volume *The Vampires of Mars* (1908-09), and Edgar Rice Burroughs's *A Princess of Mars* (1912), the first of many Barsoom stories. See Robert Crossley's *Imagining Mars: A Literary History* (Wesleyan UP, 2011).

37. This little-known parody by Graves and Lucas was published in 1898. Wells's short story "The Crystal Egg" appeared in 1897.

38. Lunar stories (in English) judged by Scarborough as "not worth much" may have included George Tucker's *A Voyage to the Moon* (1827) but most likely did include *The Great Moon Hoax* (1835), six articles anonymously published in a New York newspaper about the supposed discovery of intelligent alien life on the Moon (falsely attributed to the celebrated astronomer Sir John Herschel). See Paul C. Gutjahr's *'Voyage to the Moon' and Other Imaginary Lunar Flights of Fancy in Antebellum America* (Anthem, 2018) and especially Marjorie Hope Nicholson's classic study *Voyages to the Moon* (Macmillan, 1960).

39. George Du Maurier's novel was published in 1898. The Martian's "protégé" is named Barty Josselin.

40. Published in 1915, this work by London is titled *The Jacket* in the UK.

41. This work by Pain appeared in his 1891 volume *In a Canadian Canoe*. Hawthorne's short story "The Intelligence Office" appeared in his collection *Mosses from an Old Manse* (1846). During Hawthorne's time, an "intelligence office" was essentially an employment agency, often for the placement of domestic help. The

applicants in his story, however, are seeking not a specific job but rather various means of personal fulfillment—love, fame, a sense of self-worth, etc.

42. The full title of Crawford's novel is *The Witch of Prague: A Fantastic Tale*. It was first published in 1890.

43. MacDonald's novel was published in 1860 with the full title of *The Portent: A Story of the Inner Vision of the Highlanders, Commonly Called The Second Sight*.

44. The stories by Ford (pen-name of James Lauren) cited here were collectively titled *Hypnotic Tales* and published in the collection *Hypnotic Tales and Other Tales* (1894).

45. This novel by Howells was first published in 1880. See Kermit Vanderbilt, "'The Undiscovered Country': Howells' Version of American Pastoral." *American Quarterly* 17.4 (Winter, 1965): 634-55.

46. It appears that H.G. Wells had some strong feelings about hypnotism. His novelette "A Story of the Days to Come" (1899) features an unsympathetic hypnotist who alters memories for a fee. In his novel *When the Sleeper Wakes* (1899) he also envisions a future where

In every street were hypnotists ready to print permanent memories upon the mind. If anyone desired to remember a name, a series of numbers, a song or a speech, it could be done by this method, and conversely memories could be effaced, habits removed, and desires eradicated—a sort of psychic surgery was, in fact, in general use. Indignities, humbling experiences, were thus forgotten, amorous widows would obliterate their previous husbands, angry lovers release themselves from their slavery.

47. Du Maurier's novel, first published in serial format in 1894 in *Harper's* and then as a book in 1895, became a best-seller and was adapted multiple times to stage and screen. The evil hypnotist's very name entered common parlance: a "svengali" means a criminal mastermind who dominates and mentally controls another.

48. A rather odd alchemist's love story, this Doyle novel was published in 1891.

49. The tale described here is actually "The Elixir of Life" (1913) by Albert Bigelow Paine.

50. Both "The Love Philter" and "Blue Roses" were published by Pain in 1914 in his anthology *Stories Without Pain*.

51. This novel by Frank Danby (pen-name of Julia Frankau) was published in 1916. "Morphia" is another term used for the opiate morphine.

52. De Quincey's popular autobiographical tale was first published in 1821.

53. Stevenson's famous novel of "chemical supernaturalism" (as Scarborough puts it) was published in 1886.

54. Machen's episodic horror story—detailing the gruesome pagan rites of a secret society whose membership includes the three imposters of the title—appeared in 1895.

55. This paragraph on Wells's *The Invisible Man* (1897) and the following one nicely summarize Scarborough's main thesis that the use of "scientific realism" by authors such as Wells has strengthened the verisimilitude of these tales, making "the effect of supernaturalism more vivid" with the final result that "each branch of science added to the mental store of the ordinary reader is a distinct gain to fiction."

56. Hawthorne's short story "The Birthmark" was first published in 1843 and appeared in his volume *Mosses from an Old Manse* (1846).

57. Conan Doyle's humorous story about the unexpected results of an execution by electric chair first appeared in 1892.

58. The two Sax Rohmer stories discussed here most likely appeared in *The Insidious Dr. Fu-Manchu* (1913) and *The Return of Dr Fu-Manchu* (1916).

59. This novel by Wells was first published in 1896.



60. The short stories from Machen's *The House of Souls* (1906) described here include "The Great God Pan" (1894) and "The Inmost Light" (1894).

61. This Bierce short story, "The Eyes of the Panther," first published in 1897, is an early example of "were-animal" fiction. Elsie Venner refers to the 1861 novel of the same name by Oliver Wendell Holmes Sr. that features a woman whose mother was bitten by a rattlesnake when she was pregnant, giving her daughter some psychological attributes of a reptile. Holmes, a physician as well as a writer, called it the first of his "medicated novels" in which he explored the medical condition of a character.

62. Pain's monster/revenge story was included in his early collection *Stories in the Dark* (1901).

63. This short story by Conan Doyle was first published in 1910 and reprinted in his collection *Tales of Terror and Mystery* (1922). Scarborough notes that the story belongs to the "supernormal animals" genre of scientific supernatural fiction. As such, it would seem to herald Conan Doyle's more famous novel *The Lost World*, which first appeared in 1912.

64. Cited here are two of Hawthorne's posthumous stories, *Septimius Felton, or the Elixir of Life* (unfinished, published in 1872) and *The Dolliver Romance* (also unfinished, published in 1864).

65. One of Hawthorne's most famous sf tales, "*Rappaccini's Daughter*" was first published in 1844. See H. Bruce Franklin, "Nathaniel Hawthorne and Science Fiction," in *Future Perfect: American Science Fiction of the Nineteenth Century* (Oxford UP, 1966): 3-23.

66. Blackwood's novel was first published in 1912. Other sentient-tree narratives include a chapter on the Potuans in Ludvig Holberg's *A Journey to the Underground World* by Nicholas Klimius (1742), George MacDonald's *Phantastes* (1858), and Edward Page Mitchell's *The Balloon Tree* (1883).

67. "The Flower of Silence" appears in chapter 4 of Rohmer's *The Hand of Fu-Manchu* (1917).

68. Wells's tale of botanical vampirism was first published in 1894 and was later reprinted in his collection *The Country of the Blind and Other Stories* (1911).

69. The Blackwood short story discussed here is "The Transfer" (1912).

70. Stockton's story first appeared in 1884.

71. This short story, published in 1835, was authored by Littleton Barry (pen-name used by Poe). The mention of stories about someone losing his shadow refers to the novella (originally published in German) *Peter Schlemihl's Miraculous Story* (1812) by Adelbert von Chamisso, where the young Peter sells his shadow to the Devil for endless riches but soon discovers he has made a terrible deal. The Yiddish word "schlemiel" means a stupid, awkward, or unlucky person.

72. First published in 1858, this short story by O'Brien has become one of the classics of early science fiction.

73. First appearing in 1856, this story was also included in the collection *Stories by American Authors*, vol. 3 (1885).

74. Stoker's mummy-revival novel *The Jewel of Seven Stars* was first published in 1903. His very influential vampire novel *Dracula* first appeared in 1897.

75. The reanimation story referred to here is Whitney's "The Woman from Yonder," which appeared in *The Century Magazine* in November 1913.

76. This Blackwood novel, published in 1910, connects to two long philosophical and religious traditions: "the music of the spheres" (e.g., Pythagoras, Kepler, et al.) and "the true name(s) of God" (e.g., Arthur C. Clarke's famous 1953 short story).

77. Set during the American Civil War, this surprise-ending short story was first published in 1890. It then appeared in Bierce's collection *Tales of Soldiers and*

*Civilians* (1891). Its dream sequence somewhat resembles the one portrayed in Robert Sheckley's sf tale "The Store of the World" (1959).

78. This is another time-bending story that was first published in 1908 and later included in Bacon's volume *The Strange Cases of Dr. Stanching* (1913).

79. The references here are to Pain's "The Celestial Grocery" (1891) and Blackwood's "The House of the Past" (1904).

80. Scarborough's argument—that "scientific supernaturalism" cannot exist in poetry because their "methods and purposes are altogether different"—is especially interesting since it appears to be one of the earliest academic discussions of this literary question. Many poets such as William Wordsworth and Percy Shelley praised the mind-expanding perspectives created by science; and there were many scientists, such as Erasmus Darwin and Sir Humphrey Davy, who also dabbled in poetry. But the subgenre of "science-fictional poetry" per se did not really emerge until the 1960s New Wave, a movement that openly encouraged experimentation. For more on poetry in science and science in poetry, see Steve Eng's essay "The Speculative Muse: An Introduction to Science Fiction Poetry" in *Anatomy of Wonder 4*, ed. Neil Barron (Bowker, 1995); 378-92, Brian Stableford's entry in his *Science Fact and Science Fiction: An Encyclopedia* (Routledge, 2006): 383-87, and especially Suzette Haden Elgin's authoritative *Science Fiction Poetry Handbook* (Sam's Dot, 2005).

81. This work by Noyes was published in his *Collected Poems*, vol. 2 (1913).

82. While seemingly adamant in her belief that poetry and science cannot be fully combined, Scarborough nevertheless seems to leave the door slightly open for *vers libre*. As its name implies, *vers libre* or "free verse" is an open form of poetry that abandons metrical patterns and rhyme schemes and follows more closely the rhythm of natural speech. *Vers libre* originated in the poetry of Walt Whitman and a number of late-nineteenth century French symbolist poets such as Charles Baudelaire, Paul Verlaine, Arthur Rimbaud, and Jules Laforgue. It was only during the early years of the twentieth century that it finally became recognized in the United States and Great Britain, especially through the Modernist poetry of Ezra Pound. At the time of Scarborough's writing, *vers libre* was the latest "new thing" on the international literary scene.

83. Dreiser's collection *Plays of the Natural and Supernatural*, containing *Laughing Gas* and *The Blue Sphere*, was published in 1916.

84. Belgian playwright Maurice Maeterlinck's *Blue Bird*, an allegorical fantasy play, premiered in 1908. The plot involves two children on Christmas eve who are sent on a magical quest by a fairy queen to find the "blue bird of happiness." In their search throughout the Land of Memory and the Palace of the Night, they encounter personifications of Stars, Sicknesses, Luxuries, Joys, etc.

85. Published in 1894, *Vistas* is not a single play but rather a series of short dramatic sketches. They were supposedly written by Sharp while he was under the influence of the Symbolist movement, and they were not intended to be staged.

86. Having made her argument about the fundamental incompatibility of the scientific supernatural with the genres of poetry and drama, Scarborough finishes her essay by returning to one of her oft-repeated observations: that the scientific elements in these prose stories expand their field of vision beyond the "normal" supernatural and also serve to enhance their verisimilitude.