

How to Write “Science” Stories

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IN modern detection of crime, the X-ray machine, test-tubes, bunsen-burners, the microphotograph, the spectrograph, the spectrophotometer and the polarizer are preceding the baton and police whistle in usefulness.¹ As the pioneer in publicizing these advances in criminal-detection, and in educating both police and public, *Scientific Detective Monthly* is performing invaluable duties.²

The primary aim of this magazine is to interest and entertain. Apart from the fact that all material must deal with scientific detection of crime, no editorial foibles and policies exist against which the writer so often battles in vain. There is only one editorial dictum—scientific accuracy. That accomplished, the author can give his imagination free reign.

Realizing that *Scientific Detective Monthly*, published at 96 Park Place, New York, is exploring a new field of action, I have prepared for the readers of WRITER’S DIGEST the following lengthy treatise on the Scientific Detective Story.

LET it be understood, in the first place, that a science fiction story must be an exposition of a scientific theme and it must be also a story. As an exposition of

¹This essay was republished with an introduction by Gary Westfahl in *Science Fiction Studies* #63, Volume 21, Part 2 (July 1994), and follows his editorial corrections. First appearing in *Writer’s Digest*, Westfahl argues that it “qualifies as the first article ever published on how to write science fiction.”

²*Scientific Detective Monthly* was Gernsback’s experiment in a new subgenre of science fiction that ran for ten issues only, January 1930 until October. The stories published here used “scientific” (which almost always meant technological) deduction and rationality without the need for futuristic predictions or settings. Much of the fiction published in *Modern Electrics* and *Electrical Experimenter*—by writers like Charles S. Wolfe, Jacques Morgan, and Thomas W. Benson—anticipates this style of technoscientific problem solving set in the present. Gernsback argues here that scientific detective stories are simply a more mature, better researched form of detective fiction and anticipates that they will soon overtake the entirety of that genre.

a scientific theme, it must be reasonable and logical and must be based upon known scientific principles. You have a perfect right to use your imagination as you will in developing the principles, but the fundamental scientific theory must be correct.

As a story, it must be interesting. Even though you are making a description of some dry scientific apparatus, invention or principle, you should never bore your reader by making your description dry or uninteresting. A really good writer arranges descriptions so that they will always be interesting.

The rules that are given here are recommended for your careful consideration.

Scientific detection of crime offers writers the greatest opportunity and most fertile field since the detective first appeared in fiction. Radio, chemistry, physics, bacteriology, medicine, microscopy—every branch of science can be turned to account. The demand for this material is large, the supply is small. But authors who wish to capitalize on this new source of income must be careful to follow certain well-defined principles. These may be explained by setting forth a list of rules: What To Do, and, as the colored character in Octavus Roy Cohen's story says, "What To Don't."

Here are some hints that will increase your remuneration very materially, and will insure your manuscripts a thorough reading and prompt report.

- (1) A Scientific Detective Story is one in which the method of crime is solved, or the criminal traced, by the aid of scientific apparatus or with the help of scientific knowledge possessed by the detective or his coworkers.
- (2) A crime so ingenious, that it requires scientific methods to solve it, usually is committed with scientific aid and in a scientific manner. Therefore the criminal, as well as the detective, should possess some scientific knowledge. You will see that this is not an absolute essential to a good story; a scientific detective can use science in tracing the perpetrator of an ordinary crime, but judicious use of science by both criminal and detective heightens the interest because it puts the two combatants on a more equal plane.
- (3) As most of our readers are scientifically minded, the methods used by criminal or detective must be rational, logical and feasible. Now, this does not limit the author's imagination; he can develop many imaginative uses of science, provided they are reasonable. For example: one author sent us a story of a man who rendered himself invisible by painting his clothes and face with a non-light reflecting paint. By explaining some of the laws of light and color he made this accomplishment sound plausible, as indeed it is. But he forgot to mention the shadow which is naturally cast by any object standing in the light, whether or not it is visible to our eyes. Readers of our magazine pick us up on these little details. To avoid such mistakes in writing, which really arise from lack of thought, consider your story from every angle before you write your final copy.

- (4) What description of clouds and sunsets was to the old novelist, description of scientific apparatus and methods is to the modern Scientific Detective writer. Here again the author must remember that his work will be read by competent scientists among our readers; and, without careful reference to the encyclopedia, no descriptions of scientific instruments should be included in your stories. If you are not in touch with a Public Library, it is advisable to buy a few really good reference books. Criminoscientific fiction has come to stay and your investment will pay you dividends.
- (5) A scientific crime is, ipso facto, a mysterious one. Do not underestimate the value of mystery and suspense in your stories; but remember that it is not necessary to commit wholesale slaughter in order to obtain these effects. A story is a good story when the reader can imagine himself threatened by the same peril as the characters in the tale. I can imagine myself killed by a diabolical bacteriologist—I find it harder to visualize wholesale destruction by a mythical organization. The latter is less personal and individual. Your object is to project scientific diablerie into truthful settings.
- (6) For your own sake, avoid hackneyed characterization. Keep clear of fair-haired, blue-eyed Irishmen; long, lanky, keen-eyed, dark-complexioned clean-cut Americans, et al. Although good characterization helps a story, better none than poor ones.
- (7) With the advancement of science, the criminal-in-fact is turning scientific as well as the criminal-in-fiction. Therefore we prophesy that Scientific Detective fiction will supersede all other types. In fact, the ordinary gangster and detective story will be relegated into the background in a very few years. It is worth your while, then, to study this new development carefully, devoting all your time and efforts towards turning out good stories of this type. Literary history is now in the making, and the pioneers in this field will reap large rewards.

A FEW Don'ts must be remembered if you are to turn out a good story. Here are some:

- (a) Don't look through your old manuscripts and tack scientific endings to them. A Scientific Detective Story is a particular type, in which the scientific atmosphere is coherent and permeating right through the tale. To write really good fiction, saturate yourself with the required atmosphere. Read scientific books, visit chemical laboratories and electrical engineering shops. When you are charged with scientific enthusiasm, then sit down and write your stuff.
- (b) Don't make your professor, if you have one, talk like a military policeman or an Eighth Avenue "cop." Don't put cheap jokes in his mouth. Read semi-technical magazines and reports of speeches to get the flavor of academic phraseology.

- (c) Don't drag in television. It is worked to death and there are so many better appliances you can use in your stories.
- (d) What you are not sure about—look up at the library. Don't make your criminal or detective sit down at a table and twirl dials and snap switches without an explanation of what these are for, and why they are operated by the character. Your readers want to know about this; and it gives you a good chance to pad your story legitimately from a scientific text book. Scientific Detective Stories are easy to write once you grasp the swing of them.
- (e) Don't fall into the misapprehension that, because your story has plenty of science in it, a plot is therefore unnecessary. The science improves the plot—not vice-versa.
- (f) Break up your story into action, dialogue, and description. So many lines of one, so many of another. If you have a long descriptive passage to write, interlope some action, as, for example:

“—————so the machine works best in an atmosphere of seventy degrees.” The Professor crossed the room, closing the copper contact as he passed it. “The higher level of the atmosphere is cold,” he continued quickly: “When the machine—— ———” etc.

- (g) Don't underestimate the importance of properly-prepared manuscripts. Not only is the easy-to-read manuscript favored by editors; but care in typing and layout will induce careful and orderly thought in your actual writing. Short lines are easier to read than long ones; this is due to a well-known optical law. Therefore, leave a wide margin on the left-hand side of your page. You will find it much more remunerative to write one story well and carefully, than three rapidly and carelessly. Therefore edit and retype before submitting manuscripts. Clean the type bar of your typewriter. Triple spacing is even better than double. Give an accurate word count on the title page. Don't put in your own captions or chapter heads; we do this after the story is in type. (h) Don't imitate other writers. Many a story is rejected simply because it is too “close” to another one.
- (h) Don't name your characters after those in well-known books. Since Van Dine's books appeared, Adas and Sibellas are appearing in every editorial office. We wish to be introduced to some other ladies.
- (i) Don't “splurge.” Our office is full of stories that are the “greatest, most terrible, fearful, mysterious, world-shaking mysteries of the age.” These stories are usually bad; because, in order to make them sensational to the editorial staff, the author has gone beyond the limits of reason. Besides, we cannot fill a book with superlatives. Many (in fact most) scientific murders are little known, are buried deep in public ignorance. Write

stories of which the reader will say: "By Gosh! that might have happened right in this town, and no one heard of it." If you have a good idea, in scientific detection of crime, your story will interest us and our readers. That is all we want.

- (j) Don't think that Scientific Detective Stories are hard to write. You are working on virgin ground. The whole field of science is your oyster to open with your pen and extract the pearl of steady work and good pay.

Finally, before you mail your manuscript to us, submit it to some local professor or authority on science, or to a physics teacher, to check the scientific principles involved. If you have studied a text book before writing your story, your theme will probably sound logical and sensible.

Remember that short stories should run from 8000 to 20,000 words; serials 50,000 to 60,000 words. The rate of payment is from one-quarter to one-half cent a word, depending on the value of the story. Higher prices are paid for exceptional stories.

When you have finished the first draft of your manuscript, hold it for a few days. Then read it over carefully and see if you have left any points unexplained, and threads tangled. Although you must try to avoid "giving away" the secret of the mystery at the start, your finale must clear up everything completely; so that the reader understands just what has happened.

The whole secret of scientific fiction lies in reading about your subject before you start your story. Get an idea of what the murderer is going to do and how he will do it before you even put a word on paper. Then think out what clues the detective will find, and what scientific apparatus or methods he will use to trace the criminal. If you have a mental vision of your story before hand, and the scientific details at your finger tips, the story will almost write itself as you work.

I have gone through this subject at length, because I am very much interested in having our writers become successful. As time goes on, you will see certain writers forging steadily to the front and gaining a reputation and a following. Those are the authors who have spent a good deal of time and effort in the construction of their early stories, making them works of art from every point of view.