Hard Evidence Repudiates the Hypothesis that Mini-Nukes Were Used on the WTC Towers

Letter, by Dr. Steven E. Jones

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Introduction

The ancient Greek method of "science" was to start with one or several observations, then apply LOGIC to seek an explanation. For example, the Greek idea that the earth was at the center of the universe explained many observations without a telescope. And where the data did not "fit", Plato declared that they should "save the hypothesis" – putting the "logical" explanation ahead of empirical data and experiments. I have observed that many people today use this method without realizing that it has been supplanted in the scientific community by a much better way to arrive at facts.

Modern Scientific Method: start with several observations, and generate a hypothesis (or hypotheses) to be tested. (See Appendix A.) Then perform further EXPERIMENTS and measurements to test each hypothesis and its predictions. Keep challenging the hypothesis with more experiments – and modify the hypothesis as more empirical data are acquired. Finally, based on solid evidence and analyses, arrive at a conclusion and publish results in a peer-reviewed journal or book. In this way, many hypotheses (including the flat-earth and geo-centric universe concepts) have been discarded "scientifically," while a small number of robust theories have survived (like Quantum Theory). While many pieces of evidence may support a hypothesis, it logically takes only one soundly established contradictory piece of evidence to require the abandonment of a hypothesis.

We do not need to endlessly discuss hypotheses that have been ruled out by empirical data.

We will apply the modern scientific process in studying the hypothesis that mini-nuclear bombs were used to bring down the Towers.

The WTC Mini-Nuke Hypothesis

An hypothesis has been suggested that a small nuclear bomb was placed in each Tower and used to demolish the buildings on 9/11/2001. [Ref. 1 below.] We collect and analyze empirical evidence to find out whether or not the hypothesis is valid.

Tritiated water tests:

"Traces of tritiated water (HTO) were detected at the World Trade Center (WTC) ground zero after the 9/11/01 terrorist attack. A water sample from the WTC sewer, collected on 9/13/01, contained (0.164±0.074) nCi/L of HTO. A split water sample, collected on 9/21/01 from the basement of WTC Building 6, contained 3.53±0.17 and 2.83±0.15 nCi/L, respectively. **These results are well below the levels of concern to human exposure**…" http://www.llnl.gov/tid/lof/documents/pdf/241096.pdf

Tritium from a thermonuclear (fusion) bomb would be way above these trace levels of a few NANOcuries per liter. (A nanocurie = nCi, 1 billionth of a curie. That is a very tiny amount of radioactivity.) A major fusion reaction in hydrogen bombs is

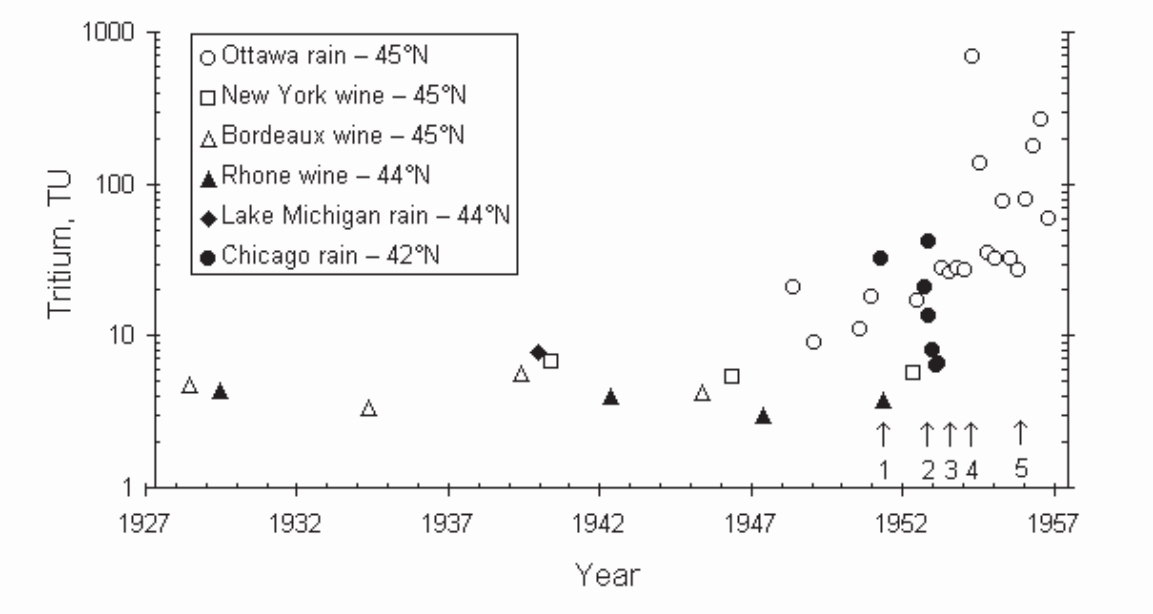
deuterium + tritium → Helium + neutron.

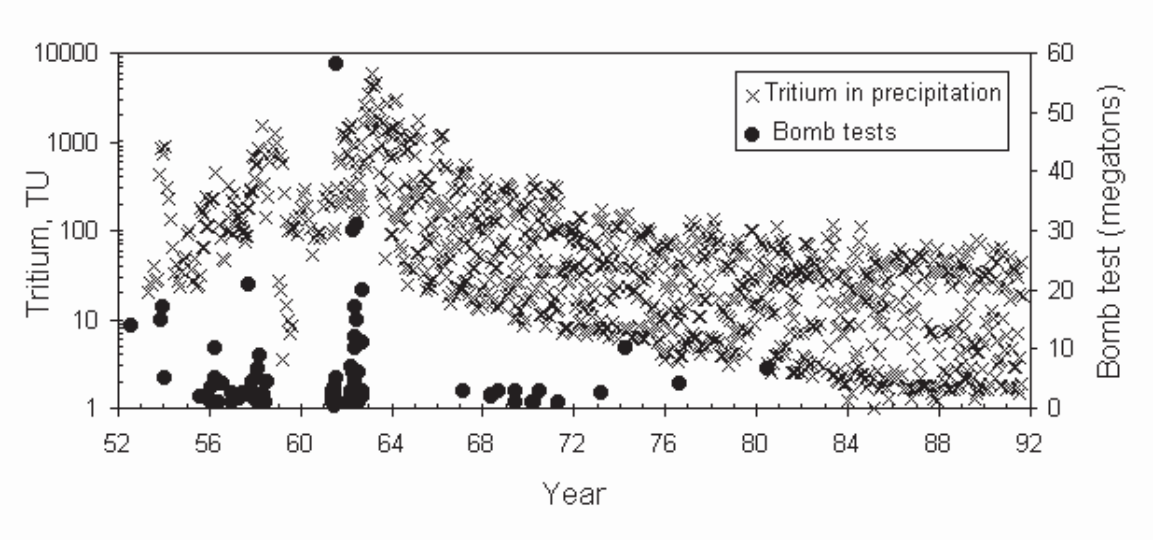
Many millions of curies of tritium are present in even a small thermonuclear (hydrogen) bomb. (Note that tritium can be generated during the blast from the reaction of neutrons on lithium deuteride.) Yet the observed tritium levels at GZ were in the billionth of a curie range. Note

that “atomic” or fission bombs are based on the fissioning of heavy elements such as uranium and plutonium, rather than the fusing together of light hydrogen isotopes (such as deuterium and tritium) in the hydrogen or fusion bomb. But to date, all known hydrogen bomb-explosions have been started (“ignited”) by fission bombs. Our technology is not yet sufficient to have a “pure” fusion device of any significant size – we struggle to ignite small d-t pellets in a laser-bombardment environment. Indeed, this problem of igniting the fusion reaction explains why we do not yet have hydrogen-fusion reactors producing power. Furthermore, the fission-fusion bomb is designed to release enormous amounts of energy by combining effects from fission and fusion -- see, for example, http://en.wikipedia.org/wiki/Hydrogen_bomb .

Note: controlled, even room-temperature “pure” fusion is possible using elementary particles known as muons, in muon-catalyzed fusion. See paper by the author in ***Nature*** 321: 127-133 (invited paper), also Rafelski and Jones in ***Scientific American***, July 1987. The energy yields are not enough by muon-catalyzed fusion for commercial power generation (unfortunately) – nor for a nuclear bomb (fortunately).

The graphs below show that hydrogen-bomb testing boosted tritium levels in rain by several orders of magnitude. (Ref.: http://www.science.uottawa.ca/~eih/ch7/7tritium.htm)





The data clearly demonstrate the large amount of tritium released due to hydrogen bombs, the first of which was tested in 1951. Thus, tritium is a tracer for hydrogen bombs, the "smoking gun." Can proponents of the WTC-mini-nuke hypothesis explain how large releases of tritium did NOT happen on 9/11/2001?

Mere trace amounts of Iodine-131 (produced in fission reactions) found in Hudson River sediments

"Sediment cores pulled from the Hudson River near the World Trade Center site just a month after the Sept. 11, 2001, terrorist attacks contain a thin layer of metal-rich ash and pulverized debris. The top 3 cm of silt contained layers with unnaturally high concentrations of copper, strontium, and zinc from the towers, says Sarah D. Oktay, a geochemist…

"Oktay and her colleagues also found that the sediments contain small but measurable quantities of iodine-131, a human-made radioactive isotope with a half-life of about 8 days. **Total iodine concentrations were actually lower in the [WTC] debris-filled layers**, which means the source of the element probably isn't related to the attacks. Also, the iodine probably didn't leak from nuclear power plants upstream because other telltale radioactive isotopes didn't turn up. Instead, says Oktay, the iodine—which is used in various medical treatments and sometimes carried home internally by patients—probably entered the river through local sewage systems. The researchers report their findings in the Jan. 21 Eos."

So, Iodine concentrations were LESS in the upper debris layers associated with the WTC dust! And Iodine-131 (produced in fission reactions) was only found in very low-level trace amounts anyway. These data provide strong evidence against "mini-nuke-caused-WTC-destruction" hypothesis involving fission reactions, including a "small" fission bomb to set-off a fusion bomb.

References: Science News, Volume 163, No. 7, February 15, 2003, p. 109.

Oktay, S.D., et al. 2003. WTC geochemical fingerprint recorded in New York harbor sediments. Eos 84(Jan. 21):21–28.

Sept. 2006: Radioactive "hot spots" in NY City – but is it the kind and amount evidencing "mini-nukes"?

We need to be cautious – just because there is a small amount of radioactivity found – that does not mean that nuclear bombs were used to bring down the World Trade Center. As careful researchers, we **check the AMOUNT and the RADIOACTIVE SPECIES involved.**

From a news article: "Radioactive 'hot spots' threat to city", BY JAMES GORDON MEEK, DAILY NEWS WASHINGTON BUREAU

- "WASHINGTON - A helicopter survey revealed 80 radioactive "hot spots" in New York City, including a Staten Island park with dangerously high levels of **radium**, a congressional report disclosed yesterday…The GAO did not identify the park, but Brian Feeney of the National Park Service said a 1-acre section of Great Kills Park on Staten Island, part of Gateway National Recreation Area, had been shut down in August 2005 after federal officials discovered **old industrial equipment contaminated with radiation."**

RADIUM is NOT used in nuclear weapons (e.g., "mini-nukes"), although it can be one of many products of fission. It is not fissile (like plutonium and uranium). But it is used in some *industrial equipment*. It should have been disposed of properly,

yes, but this radioactive radium is NOT indicative of a nuclear bomb.

Radioactive isotopes

A published study by Paul Lioy *et al.* presents data regarding radioactive isotopes (radionuclides), such as would be produced in abundance if atomic bombs were in fact deployed. [http://www.ehponline.org/members/2002/110p703-714lioy/lioy-full.html]

Radionuclides. We analyzed the gamma spectrum of the samples using an EG&G/Ortec high-purity Ge detector (50% relative efficiency) gamma counter (EG&G/Ortec Instruments, Inc., Oak Ridge, TN). We analyzed approximately 50 peaks based on statistical significance (counting/lack of interferences). These included thorium, uranium, actinium series, and primordial radionuclides. Liquid scintillation analyses were conducted for emissions on the total dust and smoke samples using a Packard Tri-Carb Model 2770 TR/SL (Packard Instrument, Meriden, CT). The MDA for alpha radioactivity was 0.30 DPM (0.14 pCi) based on a NIST-traceable ^{226}Ra standard (National Institute of Standards and Technology, Gaithersburg, MD).

Results. We found only background levels of alpha radionuclide activity by liquid scintillation counter analysis of all three samples. Beta activity was slightly elevated, but not more than twice the background level. There were no levels of gamma activity > 1 Bq/g except for naturally occurring potassium-40.

These very low levels of radioactive isotopes (radionuclides) in the WTC dust are by themselves sufficient to rule out the use of atomic bombs (even as triggers) at the WTC, which could be construed as an absurd notion as it confronts the empirical facts. But we carry on with still more data.

Neutron activation not observed.

All nuclear weapons (especially FUSION/Hydrogen bombs) release copious high-energy neutrons which will activate steel and other materials, as the neutrons penetrate building materials. This is called neutron activation and cannot be avoided. Much of the

induced radioactivity remains for decades. Moreover, the fall-out from even small nuclear weapons is highly radioactive. So we measure the level of radioactivity as proof (or disproof) of the use of nuclear bombs.

Several months ago, I tested WTC dust samples (from an apartment at 113 Liberty Street, NYC [1]) and a solidified metal sample (from the Clarkson University WTC monument [1]) for radioactivity using a Geiger counter. (Daedalon Corp., model EN-15.) I found ZERO RADIOACTIVITY (meaning nothing above background). This experimental evidence goes strongly against the mini-nukes hypothesis since measured radioactivity was simply at background levels.

I used the same counter to measure the radioactivity of sand gathered from a nuclear-bomb test site decades ago for comparison – and the Geiger counter showed (2.94 +- 0.15) counts/sec. (The fused-sand was in fact from a New Mexico test site where an atomic bomb was detonated in 1945.) This demonstrates unequivocally the presence and long life of radioactive residues due to nuclear bombs, and the ability of the sensitive Geiger counter to measure that radioactivity. The sand still yields high Geiger-counter readings decades after the nuclear bomb blast, yet the WTC dust and slag and steel yield nothing.

In addition, a steel member from the WTC (again from the Clarkson University WTC monument [1]) was recently tested for neutron activation by the author. The WTC steel showed 100 counts in 4m 26s, or (0.38 +- 0.04) counts/second. The background counting rate showed 100 counts in 4m 18s, or (0.39+- 0.04) counts/second. These data overlap within the statistical error, meaning that zero counts over background were seen from the WTC steel.

A note on pulverization.

Along with others, I examined the sample obtained by Janette MacKinlay at 113 Liberty Street, just across from the South Tower. The windows of her apartment were blown in during the collapse of this tower on 9/11/2001, and her apartment was filled

with dust and debris. She collected a sample of this material in her own apartment in a plastic bag – which is good procedure – and the chain of custody went directly from her to me. (In the presence of other researchers, I collected more samples from her large plastic bag, while visiting in her home.)

As we examined the WTC-debris sample, we found large chunks of concrete (irregular in shape and size, one was approximately 5cm X 3 cm X 3cm) as well as medium-sized pieces of wall-board (with the binding paper still attached). Thus, the pulverization was in fact NOT to fine dust, and it is a false premise to start with near-complete pulverization to fine powder (as might be expected from a mini-nuke or a "star-wars" beam destroying the Towers). Indeed, much of the mass of the MacKinlay sample was clearly in substantial pieces of concrete and wall-board rather than in fine-dust form.

A previously published study of the WTC dust noted: "The environmental science community has been slow to understand that the acute health effects were attributable to a complex mixture of gases and particles and that *the particles in greatest abundance (mass) in the dust were the unregulated supercoarse* (>10-µm-diam) particles, *not the fine* (<2.5-µm-diam) or coarse (2.5–10-µm-diam) particles that are typically measured." http://pubs.acs.org/subscribe/journals/esthag/40/i22/html/111506feature_lioy.html] Their supportive data are shown in the table below:

Particle diameter (µm)	Indoors (%)	Outdoors (%)
<2.5	0.40–0.80	0.88–1.33
2.5–10	0.20–2.30	0.30–0.40
10–53	20.1–78.5	34.6–46.6
>53	19.1–79.1	52.2–63.6

It seems that the 9/11 truth community likewise "has been slow to understand" that the WTC dust particles in greatest abundance are the "supercoarse" variety rather than "fine" particles, and that significant chunks of concrete were also found in the WTC rubble.

Mini-nukes are not needed for the observed concrete pulverization nor for "top-down" demolition as observed for the WTC Towers. Chemical explosives such as RDX, HMX can cause controlled demolition along with concrete pulverization; most of us have observed such demolitions using chemical explosives and the large dust clouds produced. (In addition, cutter-charges such as super-thermites and thermate-class reactions could have been used on 9/11/2001, along with conventional explosives. See http://www.journalof911studies.com/volume/200609/WhyIndeedDidtheWorldTradeCenterBuildingsCompletelyCollapse.pdf .)

Just because most demolitions proceed with explosions at the bottom first (e.g., http://www.youtube.com/watch?v=RkiwNxfB4GM&mode=related&search=), this does not mean that destruction cannot be started near the top (as was the case with the Towers). Indeed, the demolition of the Seattle Kingdome proceeded from near the top for much of the building; see http://www.youtube.com/results?search_query=Seattle+Kingdome+demolition&search=Search). Cutter-charges can obviously be exploded starting near the top. (For the case of the WTC Towers, see further explanation in Jones, http://www.journalof911studies.com/volume/200609/WhyIndeedDidtheWorldTradeCenterBuildingsCompletelyCollapse.pdf). Thus, a mini-nuke is certainly not necessary to explain this "top-down" destruction. Indeed, it is difficult to see how a mini-nuke in each Tower (especially if located in the basements) could generate the observed "top-down" destruction of each WTC Tower – and without totally destroying the "bath-tubs" under each of the Towers.

People and glass as detectors for nuclear-bomb radiation

Finally, people themselves become "detectors" for the radiations associated with nuclear bombs. Glass also is known to melt in the intense heat of a nuclear bomb blast.

All nuclear bombs produce copious x-rays, gamma-rays and fast neutrons, which are fatal at close range with a distinctive 'burning' of the victims. This applies to fusion as well as fission bombs.

NO such immediate fatalities due to radiation "burning" were reported. Note that while power-outages can be generated by electromagnetic pulses associated with nuclear bombs, most power outages in history (and there are many instances) are due to other causes. The windows of the Towers were observed to break but not melt during the collapses.

William Rodriguez, after rescuing many people in the Towers, survived the collapse of the North Tower, adjacent to the building during its collapse. He did not show effects of a nuclear blast.

The WTC dust contained asbestos and other carcinogens. Thus, the increased incidence of cancers near ground zero can be accounted for without resorting to radioactive agents from a mini-nuke.

In a similar vein, the molten metal observed beneath both Towers and WTC 7 is consistent with a eutectic mixture of sulfur and iron (and other materials) which stays molten well below the melting point of iron (1538 C, 2800 F). The use of aluminothermics such as thermate (involving chemical rather than nuclear reactions) may account for the molten metal as explained in an earlier paper in this field of study [S. E. Jones in www.journalof911studies.com]. Thus, it is not necessary to invoke a mini-nuclear weapon to account for the molten metal observed. Indeed, the molten metal seen flowing out of the South Tower can be accounted for by the thermite reaction which produces molten iron, but could not be ascribed to a mini-nuclear explosion since this flow began several minutes before the destruction of the Tower.

Conclusion and a challenge

The hard physical evidence presented is strongly against the hypothesis that mini-nukes destroyed the WTC Towers:

1. Observation of tritium (an important component of hydrogen-bomb fuel) at WTC sites at the few nano-curie level only. This is strong evidence against the mini-nuke hypothesis.

2. The fact that radioactive iodine concentrations were actually ***lower*** in the upper/WTC debris-filled layers.
3. Radioactive hot-spots in NYC were found to be due to ***radium***, which is traceable to industrial uses (not bombs). This in itself does not rule out mini-nukes, but these data certainly do not support the mini-nuke hypothesis.
4. Lioy *et al.* report that radioactivity from thorium, uranium, actinium series and other radionuclides is at or near the background level for WTC dust.
5. Nuclear activation or residual "fall-out" radioactivity (above background) was NOT observed, in tests performed by the author on actual WTC samples. This result is consistent with the low Iodine-131 measured by independent researchers (point 2 above) and the low radionuclide counts (point 4 above) and again provides compelling evidence against the mini-nuke-at-Towers hypothesis.
6. No fatalities due to radiation "burning" were reported near ground zero. William Rodriguez survived the North Tower collapse.
7. No observed melting of glass due to the collapse-process of the Towers.
8. One more: The mini-nuke idea fails completely for WTC 7 where vertically-directed plumes of dust were absent during the collapse, and the building fell quite neatly onto its own footprint. (Molten metal was observed under the WTC7 rubble as well.)

While many pieces of evidence may support a hypothesis it logically takes only one soundly established contradictory piece of evidence to require the abandonment of a hypothesis. In the list above, we have not one but several pieces of evidence which contradict the mini-nukes-at-WTC-Towers hypothesis.

Proponents of the "mini-nuke" theory are invited to organize their data and write up a serious evidence-oriented paper, to submit to the Journal of 9/11 Studies as a reply to this Letter. That reply will be published.

A thorough response should address all of the points above. The Journal editors (corresponding to known practice in the scientific community) state that they will allow such responses to be published without peer-review constraints, the main requirements for publication being relevance, civility in the presentation, avoiding straw-man arguments,

raising specific points and questions, and naming of the author(s) so that they may be contacted for further discussion.

The author has invites proponents of the "mini-nuke theory" [Ref. 1 below] to write a reply (or replies) to this Letter.

I invite replies in the spirit of collegiality and rigorous scientific investigation, with the understanding that we are able to test and actually eliminate some hypotheses –a necessary "weeding out" process in science.

> ***Endless discussions are not fruitful, whereas measurements and experiments often are. Furthermore, when 911 researchers go before the media or investigative bodies, we had better have the best-tested facts and theories available and everything else in categories such as "highly speculative" or better, "dismissed by the data."***

Reference 1: Some presentations on mini-nuke theory, from 911Scholars.org (as of January 4, 2007)

US Government's Usage of Atomic Bombs — Domestic — WTC
25 September 2006, Ed Ward, MD

Finnish Miliary Expert: Why the WTC Collapsed

Cancer, Radiation from 911?
13 September 2006, Virgilius Haufniensis

Interview with Dr. William (Bill) Richard Deagle
16 November 2004, The Alex Jones Show, Alex Jones

Micronuclear Devices Used in OKC Bombing: Explosives Placed by FBI, ATF
8 September 2004, prisonplanet.com, Bill Deagle, M.D.

APPENDIX A: THE SCIENTIFIC METHOD, FROM:
http://physics.ucr.edu/~wudka/Physics7/Notes_www/node6.html

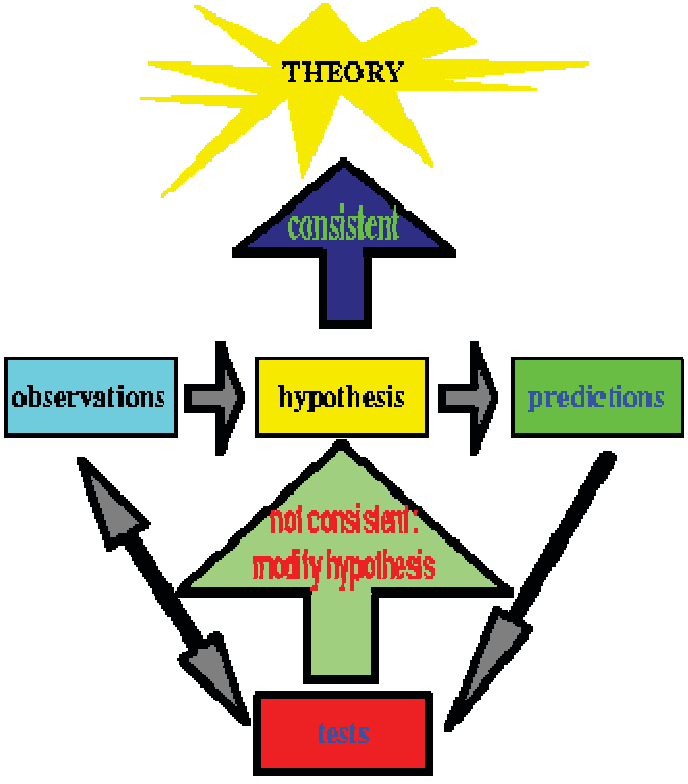
What is the ``scientific method''?

The scientific method is the best way yet discovered for winnowing the truth from lies and delusion. The simple version looks something like this:

- *1.* Observe some aspect of the universe.
- *2.* Invent a tentative description, called a *hypothesis*, that is consistent with what you have observed.
- *3.* Use the hypothesis to make predictions.
- *4.* Test those predictions by experiments or further observations and modify the hypothesis in the light of your results.
- *5.* Repeat steps 3 and 4 until there are no discrepancies between theory and experiment and/or observation.

When consistency is obtained the hypothesis becomes a *theory* and provides a coherent set of propositions which explain a class of phenomena. A theory is then a framework within which observations are explained and predictions are made.

Figure 1.1: Flow diagram describing the scientific method.



The great advantage of the scientific method is that it is unprejudiced: one does not have to believe a given researcher, one can redo the experiment and determine whether his/her results are true or false. The conclusions will hold irrespective of the state of mind, or the religious persuasion, or the state of consciousness of the investigator and/or the subject of the investigation. Faith, defined as *belief that does not rest on logical proof or material evidence*, does not determine whether a scientific theory is adopted or discarded.

A theory is accepted not based on the prestige or convincing powers of the proponent, but on the results obtained through observations and/or experiments which *anyone* can reproduce: the results obtained using the scientific method are repeatable. In fact, most experiments and observations *are* repeated many times (certain experiments are not repeated independently but are repeated as parts of other experiments). If the original claims are not verified the origin of such discrepancies is hunted down and exhaustively studied.

When studying the cosmos we cannot perform experiments; all information is obtained from observations and measurements. Theories are then devised by extracting some regularity in the observations and coding this into physical laws.

There is a very important characteristic of a scientific theory or hypothesis which differentiates it from, for example, an act of faith: a theory must be ``falsifiable''. This means that there must be some experiment or possible discovery that could prove the theory untrue. For example, Einstein's theory of Relativity made predictions about the results of experiments. These experiments could have produced results that contradicted Einstein, so the theory was (and still is) falsifiable.

In contrast, the theory that ``the moon is populated by little green men who can read our minds and will hide whenever anyone on Earth looks for them, and will flee into deep space whenever a spacecraft comes near'' is not falsifiable: these green men are designed so that no one can ever see them. On the other hand, the theory that there are no little green men on the moon is scientific: you can disprove it by catching one.

Nb: While one speaks of “a hypothesis” to be tested, there can be several hypotheses under consideration, of course. Each stands or falls based on empirical data.