

## *Ig – Gaining Confidence & Trust*

Dear: From what I've already written, maybe you're beginning to see why, when a certain four-year old asked me why I didn't believe in God, I replied that I'd tell her when she's older. Given the (appropriate!) defiance of her (logical!) response ("I'm already older!"), I can imagine her response if I had replied: "Because belief in god is bad science..." She probably would have responded: "Huh?"

When she was "even older", if I said to her, "Belief in God is bad science..." she might have responded (and might still respond!) – with characteristic emphasis (here, underlined):

"Grampa! Belief in God doesn't have anything to do with science. Belief in God doesn't need to be demonstrated scientifically or proven logically. Proofs are irrelevant; science is irrelevant! It doesn't matter if we don't understand details about how God created the universe. Details aren't important; what's important is love; what's important is knowing that your sins can be forgiven; what's important is the fate of your immortal soul. I know that God exists; I know that Jesus died for me; I know in my heart that it's true. Ya just gotta believe; ya just gotta have faith; that's all there's to it!"

Well, Dear, if that's anything similar to what you would have said (or would now say), then my immediate response would be: "Poor little sweetheart." Meanwhile, though, I'm sure that all clerics of the world would be pleased with such an "inspired" response from such an "instinctive, intuitive, imaginative" child.

Yet, let me add that I agree with some of the ideas contained in your above, imagined response: for the vast majority of "believers", their "belief" in God has nothing to do with science and everything to do with their (unconstrained) emotions, instincts, intuitions, and imaginations. All clerics know this well. Most people have an instinctive fear of insecurity, especially of death, and the clerics have devised means to pacify such fears, replacing them with a sense of security. Most people have an instinctive desire for love and repulsion for what they hate, and the clerics have concocted ways to capitalize on such love and hate. Most people want justice and desire to remedy injustice, and the clerics con people into accepting real injustice in this world for imagined justice in the next. And many if not most people, at least sometime in their lives, feel a "unity" with

all life and maybe even with the entire universe, and again the clerics have found ways to channel such “inspirations”. And so on.

But in all such cases, there’s a point of paramount importance that the clerics entirely miss – or for those clerics who do “get it”, they entirely misrepresent. It’s the need to distinguish ignorance from knowledge. For example,

- People’s “intuition” may tell them that they will win next week’s multi-million-dollar lottery – but only roughly one in ten million such “intuitions” will be right. Therefore, it’s a better bet to rely on knowledge of probabilities than to rely on the ignorance of “intuition”.
- People’s “inspirations” may tell them that “God’s in his heaven, all’s right with the world”, but it’s far better to work on correcting the wrongs of the world than to imagine that “it’s all unfolding according to God’s plan.”
- People’s “imagination” may tell them that their immortal souls will live forever in paradise, but when they tie explosives around their waists and saunter forth to blow-up themselves and innocents in the vicinity, I trust you agree, Dear, that their imagination is leading them in ignorance.
- People’s “hearts” or “instincts” may tell them that their “holy book” is “truly the word of God”, but if they’ll dig into relevant and reliable data, then as nearly as I can guarantee anything, I guarantee that they’ll find that their “holy book” (no matter which one!) is nothing but another pile of “priestly fabrications”, i.e., lies.

And so on. Therefore, Dear, what I hope you’ll see is that any “belief” shouldn’t depend on instincts, intuition, inspiration, and imagination, but on knowledge – and a synonym for ‘knowledge’ is ‘science’. Thus, Dear, to evaluate your ideas, to minimize ignorance, to maximize knowledge, the only known way is to apply the scientific method.

But that aside for now, let me return to the part of the imagined response of a certain grandchild:

“Belief in God doesn’t need to be demonstrated scientifically or proven logically... I know in my heart that it’s true... You just gotta believe. You just gotta have faith...”

If you did respond in such a manner, Dear, my reply would be:

Hey, kid, slow down! Whaddya mean by ‘true’? Whaddya mean by ‘belief’? Whaddya mean by ‘faith’? What’s the reliability of ‘the god idea’? What’s the probability that it’s all just “make believe”?

In this chapter and the next, I want to begin to show you some answers to those questions, starting with questions about ‘truth’.

### DIFFERENT MEANINGS FOR ‘TRUTH’

For reasons that I’ll describe in detail in later chapters (**T1 & T2**, both dealing with Truth), a complete description of the concept of ‘truth’ is quite complicated. Here, as an introduction to those chapters, I’ll just illustrate two different meaning for ‘truth’ for two types of systems, “closed systems” *versus* “open systems”. I don’t expect that you’re familiar with the different meanings for ‘truth’ for these two types of systems, Dear, but they’re relatively simple to understand.

For example, you can explain the concept of “closed-system truth” to me if you’ll first tell me if it’s “true” that in your math  $1 + 1 = 2$ , that in your geometry the shortest distance between two points is a straight line, that in the game of chess a bishop can move only diagonally, that in comic books Superman can be harmed only by kryptonite, and that in the Bible Jesus is the son of God. I trust you agree, Dear, that all those statements are “true”, but notice that they all deal with “closed systems”, i.e., systems totally contained within some “boundary”, defined by some set of rules given in some “rule book” – as in pure math, all games, and all religions.

But in reality, in “open systems” (i.e., systems not constrained by “boundaries” in time, space, or whatever), in those systems for which a complete set of rules isn’t specified in some “rule book”, then ‘truth’ has an entirely different meaning. For example, if you have one hole in your jeans and then get another hole in your jeans adjacent to the first, then is  $1 + 1$  still equal to two? In such a case, it’s untrue that  $1 + 1 = 2$ : in such a case, you’ll end up with only one hole in your jean (albeit a larger hole). And the reason for the failure of  $1 + 1 = 2$  is relatively easy to see: for that “algebraic rule” to be “true” (in reality), and similarly for all algebra to be “true” in reality, it’s required that the things being considered not only exist but also are distinct (i.e.,  $A \equiv A$  and  $A \not\equiv \neg A$ ), and in the case of adjacent holes in your jeans, the holes aren’t distinct.

Similarly, the other “closed-system truths” listed two paragraphs ago can be false in the “open system” known as reality. The shortest distance between two points on the Earth (or any curved surface) isn’t a straight line (e.g.,

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aircraft usually fly not in straight lines but on “great circles”, on which fuel is saved, because “great circles” – not straight lines – are the shortest distance between two points on or near the Earth’s surface). In reality, bishops (e.g., of your Church) can move more than just diagonally (but their thoughts are still constrained to straight-line diagonals – sorry, Dear, I couldn’t resist that one!). In reality, Superman doesn’t exist. And as for Jesus being the son of God, for now let me just say that it’s rather difficult to demonstrate how just an idea (i.e., God) could manage to have a son – unless of course Jesus, too, is just an idea (which as I’ll show you in later chapters seems to be a distinct possibility).

Thus, the concept of “open-system truth” has a very different meaning from “closed-system truth”. For closed systems (e.g., all games), the rules are fixed; therefore, we know what’s coming next. For open systems (for reality), in contrast, we can never be sure what’s “around the next bend” (in either space or time). Below, I’ll illustrate the concept of “open-system truth” in the case of two open-systems (namely, law and science) and with the corresponding concepts of “legal truth” (which is never known!) and “scientific truth” (which is an oxymoron!).<sup>1</sup>

In outline, the concepts are simple. You know the meaning of “legal truth”, e.g., from your mother asking you, “Is it true that...” Thus, to tell the truth in some court of law (even if the only judge is your mother!) means to describe what occurred as honestly and accurately as your mental powers permit. What you describe, however, may not be what actually occurred (your description might be in error, for any of many reasons), but when you swear “to tell the truth, the whole truth, and nothing but the truth”, you wouldn’t be committing perjury if your report is inaccurate, only if you deliberately falsified your report.

At the end of a legal process, a judge or jury will decide what the “legal truth” is – but the conclusion about what “actually occurred” can be quite wrong. That’s what I meant by saying that “legal truth” is never known: people are convicted of a crime when they are judged guilty “beyond a reasonable doubt”, not when “truth” has been established.

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<sup>1</sup> Dear, as maybe you already know and as I might have mentioned in an earlier chapter, an oxymoron is a self-contradictory concept, such as “religious reason” or “life after death” or “Christian charity” (in which case the Christian acts “selflessly” out of extreme selfishness, i.e., to get “an eternity of bliss”).

Similarly, “scientific truth” is never known. In fact, scientists shouldn’t (and normally don’t) use the term “scientific truth”, because it would display a misunderstanding of science. Galileo’s theories of motion, Newton’s “law” of gravity, Darwin’s theory of evolution, Adam Smith’s theory of economics, Carnot’s theory of entropy, Maxwell’s electromagnetic theory, Einstein’s theories of relativity, and the quantum mechanical theory developed by Plank, Schrödinger, Heisenberg, Dirac, Feynman, and others aren’t “true”. Instead, such theories are “just” principles (useful working-hypotheses) that succinctly summarize a substantial quantity of data and are capable of providing predictions that can be (and have been) tested. It’s left to my grandchildren (and other brilliant children) to earn their Nobel prizes by showing that such principles are inadequate (and if possible, to find principles that are “nearer to the truth”).

So, Dear, if you were to tell me “I know in my heart that it’s true”, then I’d ask you:

Whaddya mean by ‘true’? Are you talking about “closed-system truth” (as in some game, some comic book, or some religion) or about “open-system truth”, which is never known? If you mean “closed-system truth”, then it has nothing to do with reality; it’s just a game, including games of make believe. If you mean “open-system truth”, then how can you ‘know’ what can’t be known?

Further, as I’ll show you in a later chapter (again, in **T**, dealing with Truth): if something is demonstrated to be ‘true’, then that demonstration simultaneously shows that it has nothing to do with reality! Therefore, if people “know” in their “hearts” that the Book of Mormon (or the Koran or the Bible or whatever) is “true”, then a well-tested, useful working-hypothesis can be applied to demonstrate that such people don’t know what ‘knowing’ means, don’t know what ‘truth’ means, and are talking about some closed-system ‘truth’, which has nothing to do with reality. Montaigne hinted at something similar, more than 400 years ago: “*Quelle vérité que ces montagnes bornent, qui est mensonge qui se tient au delà?*”<sup>2</sup>

But I’m not finished explaining my proposed reply to the imagined response from a certain grandchild. In fact, I’ve barely begun! Sorry about that,

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<sup>2</sup> Incidentally, Dear, when I’m walking, I usually remember Montaigne’s idea as: “What of a truth within these mountains that’s false in the valleys beyond?” I guess I like that statement better than the more accurate translation (“What of a truth bounded by these mountains that’s false to the world beyond?”) in part because where I walk (as you know), I’m surrounded by mountains, and in part because it hints not of a single truth “in the world beyond” but different “truths” in each valley!

Dear, but if you were to say, “I know in my heart that it’s true. Ya just gotta believe; ya just gotta have faith; that’s all there’s to it!”, then after exploring if you knew what “truth” means, then I’d start into the rest with:

Whaddya mean by ‘know’? Whaddya mean by ‘believe’? Whaddya mean by ‘faith’?

To respond further, what I plan to do in this chapter and the next is to begin to show you what ‘belief’ and ‘faith’ mean, to compare them with ‘trust’ and ‘confidence’, and to suggest how ‘trust’ is earned and how ‘confidence’ is gained. In addition, I’ll continue to try to show you what ‘knowledge’ means. In this chapter, to try to help you in evaluating those concepts, I’ll begin to go through each of the terms (belief, faith, trust, confidence, knowledge) in turn, but as you’ll see, there’s quite a bit of “overlap” among these terms, and for reasons that I “trust” will become apparent, I’ll need to push aside some of the “overflow” until later chapters.

### SOME DEFINITIONS

To get underway, I’ll quote some definitions from my copy of Webster’s dictionary:

**belief** 1. the state of believing; conviction or acceptance that certain things are true or real 2. faith, especially religious faith 3. trust or confidence {I have *belief* in his ability} 4. anything believed or accepted as true; especially, a creed, doctrine, or tenet 5. an opinion; expectation; judgment {my *belief* is that he’ll come}

And since this definition for ‘belief’ includes not only the concept of ‘truth’ (badly misrepresented!) but also the concept of ‘doctrine’ (which in turn is related to ‘dogma’ and to ‘mysticism’), I’ll add relevant definitions for those words from the same source:

**doctrine** 1. something taught; teachings 2. something taught as the principles or creed of a religion, political party, etc.; tenet or tenets; belief; dogma...

SYNONYM – **doctrine** refers to a theory based on carefully worked out principles and taught or advocated by its adherents (e.g., scientific or social doctrines); **dogma** refers to a belief or doctrine [Ouch, Mr. Webster, why did you use the word ‘doctrine’ here!] that is handed down by authority as true and indisputable, and often connotes arbitrariness, arrogance, etc. (religious dogma)...

**mysticism** 1. the doctrine [Hello! I think Mr. Webster means ‘dogma’] that it is possible to achieve communion with God through contemplation and love without the

medium of human reason [What silliness! Without reason, ‘contemplation’ is just day dreaming; without reason, love degenerates just to animal instincts; without reason, humans are no more than animals!], 2. any doctrine [Hello again, Mr. Webster, don’t you again mean ‘dogma’?!] that asserts the possibility of attaining knowledge of spiritual truths [cough, cough] through intuition acquired by fixed meditation [And what, pray tell Mr. Webster, is a “spiritual truth” – besides an oxymoron?] 3. vague, obscure, or confused thinking or belief [Congratulations Mr. Webster on presenting such a damning definition of all mysticism!]

Finally, Dear, I’ll quote Webster’s descriptions of some “synonyms” for ‘belief’ (or at least, Webster’s descriptions of similar words):

**SYNONYMS** – **belief**, the term of broadest application in this comparison, implies mental acceptance of something as true [cough, cough] even though absolute certainty may be absent; **faith** implies complete, unquestioning acceptance of something even in the absence of proof and, especially, of something not supported by reason; **trust** implies assurance, often apparently intuitive, in the reliability of someone or some thing; **confidence** also suggests such assurance, especially when based on reason or evidence...

In general, Dear, I urge you to take extreme care with the ideas that you adopt as ‘beliefs’ and ‘faiths’, with meanings as in the above description of synonyms, because from them, you can see that you can quickly find that you’re on dangerously thin ice. As Montaigne wrote more than 400 years ago: “Nothing is so firmly believed as that which is least known.” In contrast, as I’ll be harping on throughout this book, you can find solid footing if you’ll replace ‘belief’ in God and ‘faith’ in your religion with ‘confidence’ in the scientific method and with ‘trust’ in yourself.

In fact, Dear, until you develop sufficient confidence in your ability to maintain your “presence of mind” in all conversations, I would advise you to totally abandon use of the words ‘belief’ and ‘faith’. Replace them with what you really mean! Don’t let others put words in your mouth.

“Ah, come off it,” responded a certain grandchild. “Everyone has ‘beliefs’; everyone has ‘faiths’; even you! Don’t you ‘believe’ that you exist? Don’t you have faith that the Sun will be shining tomorrow?”

Child: I’m not about to let a young whipper-snapper put words in my mouth! I don’t ‘believe’ that I exist, I ‘trust’ that I do. And I don’t have ‘faith’ that the Sun will be shining tomorrow, I have ‘confidence’ that it will.

My point is this. Rather than talk about ‘belief’ and ‘faith’ in any idea, it would be better – by far! – to provide an estimate of the idea’s reliability, i.e., it’s probability of being “true”. In fact, as I’ll be showing you in the next chapter, the word ‘probability’ is synonymous with the word ‘belief’: when you calculate the probability of any event, you’re developing a numerical evaluation of your “belief” that it will occur.

In particular, as I’ll show you in a later chapter (II), not only do I ‘trust’ that I exist, I estimate the probability that I don’t exist to be less than 1 part in about  $10^{25}$ . Furthermore, whereas I’ve heard no report from competent astronomers that a solar eclipse will occur tomorrow morning, that the Sun is about to explode, or that a giant asteroid is about to hit the Earth (stopping it from spinning), I have ‘confidence’ that, indeed, the Sun will shine again tomorrow, expecting there’s less than one chance in a trillion that it won’t.

In contrast to such estimates, a major part of the error in “religious beliefs” is that religious people have made such atrociously poor estimates of associated probabilities. I’ll emphasize such errors in the next chapter, dealing with “Hypotheses and Probabilities”. In this chapter, I want to emphasize another major part of the error of all religious people, an error that’s obvious in the origin of the word ‘belief’, itself.

### BELIEF AS WISHFUL THINKING

Thus, as I think I mentioned in an earlier chapter, Alan Watts pointed out (in one of his books) that the Anglo-Saxon root word “lief” means ‘wish’; therefore, “be-lief” literally means “wish to be”; i.e., many people “be-lieve” what they “wish to be”. There is, therefore, double meaning in the statement by Julius Caesar: “Men willingly believe what they wish.”

Well, wishes are fine, but meanwhile, there’s reality. As my mother (your great grandmother) used to say, conveying the wisdom of Irish and English folklore: “If wishes were horses, then beggars would ride.”

An important point was made well by (once again!) the philosopher David Hume (in 1783): “All doctrines are to be suspected which are favored by our passions...” Without applying suspicion or skepticism, the result is that ardently held “beliefs” of most people are just “wishful thinking”. They “believe” that they possess “immortal souls”, because they don’t want to accept the more obvious option that when they die, they’re dead: their brain

\* Go to other chapters via

<http://zenofzero.net/>

stops working and all elements in their bodies begin to be recycled for other uses. They “believe” that God’s in his heaven waiting to judge the eternal fate of their immortal soul, because they rather like living, they think that generally they were well behaved, and therefore, that they deserve some reward. And many people obviously hold some deeply felt grudges against other people and are quite willing to “believe” that the “immortal souls” of those bad people are headed for eternal punishment: finally some justice!

But, Dear, I urge you to give some serious thoughts to two ideas closely related to the type of “belief” outlined in the previous paragraph. These two closely related ideas are “wishful thinking” and “self deception”. I would urge you, for example, to read what Robert Todd Carroll has written for his “Skeptic’s Dictionary” at <http://skeptdic.com/>; I suggest that you also explore his “Skeptic’s Refuge” at <http://www.skeptdic.com/refuge/>; here, I’ll just display some data (assembled by Carroll, from sources he references):

- Twenty-five percent of college students believe they are in the top 1% in terms of their ability to get along with others!
- Seventy percent of college students think they are above average in leadership ability. Only 2% think they are below average.
- Eighty-five percent of medical students think it is improper for politicians to accept gifts from lobbyists. Only 46% think it’s improper for physicians to accept gifts from drug companies.
- Ninety-four percent of university professors think they are better at their jobs than their colleagues.

To try to prevent “wishful thinking” and “self deception”, Carroll adds the following:

*In How We Know What Isn’t So*, Thomas Gilovich describes the details of many studies which make it clear that we must be on guard against the tendencies to

1. misperceive random data and see patterns where there are none;
2. misinterpret incomplete or unrepresentative data and give extra attention to confirmatory data, while drawing conclusions without attending to or seeking out disconfirmatory data;
3. make biased evaluations of ambiguous or inconsistent data, tending to be uncritical of supportive data and very critical of unsupportive data.

It is because of these tendencies that scientists require clearly defined, controlled, double-blind, randomized, repeatable, publicly presented studies. Otherwise, we run

a great risk of deceiving ourselves and believing things that are not true. It is also because of these tendencies that in trying to establish beliefs, non-scientists ought to try to imitate science whenever possible. In fact, scientists must keep reminding themselves of these tendencies and guard against pathological science.

Many people believe, however, that as long as they guard themselves against wishful thinking they are unlikely to deceive themselves. Actually, if one believes that all-one-must-be-on-guard-against is wishful thinking, then one may be more rather than less liable to self-deception. For example, many intelligent people have invested in numerous fraudulent products that promised to save money, the environment, or the world, not because they were guilty of wishful thinking but because they weren't. Since they were not guilty of wishful thinking, they felt assured that they were correct in defending their product. They could easily see the flaws in critical comments. They were adept at finding every weakness in opponents. They were sometimes brilliant in defense of their useless devices. Their errors were cognitive, not emotional. They misinterpreted data. They gave full attention to confirmatory data, but were unaware of or oblivious to disconfirmatory data. They sometimes were not aware that the way in which they were selecting data made it impossible for contrary data to have a chance to occur. They were adept at interpreting data favorably when either the goal or the data itself was ambiguous or vague. They were sometimes brilliant in arguing away inconsistent data with *ad hoc* hypotheses.

Yet, had they taken the time to design a clear test with proper controls, they could have saved themselves a great deal of money and embarrassment. The defenders of the DKL LifeGuard and the many defenders of perpetual motion machines and free energy devices are not necessarily driven by the desire to believe in their magical devices. They may simply be the victims of quite ordinary cognitive obstacles to critical thinking. Likewise for all those nurses who believe in therapeutic touch and those defenders of facilitated communication, ESP, astrology, biorhythms, crystal power, dowsing, and a host of other notions that seem to have been clearly refuted by the scientific evidence. In short, self-deception is not necessarily a weakness of will, but may be a matter of ignorance, laziness, or cognitive incompetence.

The physics Nobel laureate Murray Gell-Mann summarized his assessment this way: “Many... freely confess that they believe what it makes them feel good to believe. Evidence doesn't play much of a role. They are alleviating their fear of randomness by identifying regularities that are not there.”

## MAGIC & MIRACLES

As an illustration of both “wishful thinking” and “self deception”, consider “belief” in magic and miracles, which is at the foundation of most if not all organized religions. Thus, various groups of clerics claim that their god can part the waters, or walk on water, or whatever, and they tell tall tales about

talking bushes, someone living inside whales, stopping the Earth from spinning, “speaking in tongues”, “raising the dead”, being visited by angels, and so on. Some primitive people “believed” (and some people apparently still “believe”) in such magic and miracles, but surely no modern person older than about six (and who is sane) takes any of this stuff seriously. For example, Dear, by the time you were three, I couldn’t shake your confidence in causality: you knew that the candy must be in at least one of my hands, and even if I held the candy between my fingers by the end of its wrapper, you knew that the candy was dangling beneath my upturned hand! That is, by the time you were three, you were more confident in causality than you were in my capabilities as a magician (which is what the ancient Chaldeans called their priests).

Further, Dear, imagine what a horrible world it would be if the principle of causality was invalid. Thus, imagine the chaos if we couldn’t trust causality: if some god (or some son of some god) could violate causality, then the bedrock on which all of understanding rests would be instantly transformed into mud and guck in which all mysticism is mired. Therefore, it’s enormously important that people reject all “miracles” in all “holy books” as utter nonsense, for by definition, a “miracle” violates some principle of nature that humans (and even other animals) have wrestled from nature, winning the prize of “understanding”. In reality, though, and extremely fortunately for humanity, reliable data support the claim that no one has ever violated causality; i.e., miracles don’t occur.

I should add, however, that sometimes the word ‘miracle’ is used in a different sense, with people claiming that some “miracle” occurred, meaning that something with an extremely small probability of occurring actually occurred. That is, according to Webster’s dictionary, there are two meanings for the word ‘miracle’:

1. an event or action that apparently contradicts known scientific laws and is hence thought to be due to supernatural cause, esp. to an act of God [which is the religious meaning of the word ‘miracle’], and
2. a remarkable event or thing; marvel [which is the use of the word that is used so frequently by news reporters, who almost daily seem to report on some new ‘miracle’].

Now, Dear, certainly “remarkable” events and things occur (i.e., sometimes events of even extremely low probability of occurring do occur), but never in the history of the world has there ever been even a single report of a miracle (in the religious sense) that has been found to be reliable. In later

chapters, I'll comment further on the silliness of Biblical miracles (because, Dear, probably unknown to you, your life has been dramatically influenced by such nonsense), but for now, I'll push most of this silliness aside by quoting Robert Ingersoll (from Aiken's collection), who wrote as follows in his 1872 book *The Gods*.

There is but one way to demonstrate the existence of a power independent of and superior to nature, and that is by breaking, if only for one moment, the continuity of cause and effect. Pluck from the endless chain of existence one little link, stop for one instant the grand procession, and you have shown beyond all contradiction that nature has a master. Change the fact, just for one second, that matter attracts matter, and a god appears.

The rudest savage has always known this fact, and for that reason always demanded the evidence of miracle [in the religious sense]. The founder of a religion must be able to turn water into wine, cure with a word the blind and lame, and raise with a simple touch the dead to life. It was necessary for him to demonstrate to the satisfaction of his barbarian disciples, that he was superior to nature.

In times of ignorance this was easy to do. The credulity of the savage was almost boundless. To him the marvelous was the beautiful, the mysterious was the sublime. Consequently, every religion has for its foundation a miracle – that is to say, a violation of nature – that is to say, a falsehood.

No one, in the world's whole history, ever attempted to substantiate a truth by a miracle. Truth scorns the assistance of miracle. Nothing but falsehood ever attested itself by signs and wonders. No miracle ever was performed, and no sane man ever thought he had performed one. And until one is performed, there can be no evidence of the existence of any power superior to, and independent of nature.

The church wishes us to believe. Let the church, or one of its intellectual saints, perform a miracle, and we will believe. We are told that nature has a superior. Let this superior, for one single instant, control nature, and we will admit the truth of your assertions.

Nonetheless, Dear, let me add that, in principle, I have absolutely no objection to a miracle (in the religious sense) actually occurring. In fact, I'd be delighted to observe one, because it would mean that some natural phenomenon is not yet understood. For example, if "by some miracle" this keyboard would type the next word by itself, then I'd immediately give up writing this book and dig until I understood the cause. The probability of a quantum fluctuation causing a word to appear is too small to provide me with an adequate explanation – more likely would be a "glitch" or "bug" in the software program that I'm using!

Stated differently, even if a miracle (in the religious sense) were to occur, I wouldn't accept it as a miracle – and hope that neither would you! If “an event or action that apparently contradicts known scientific laws” were to occur, then it would mean not that the event was “due to supernatural causes, especially to an act of God”, but that some scientific principle was inadequate and therefore needed to be revised – or that a worm had worked its way into my computer! But meanwhile, although I've now paused for quite a while waiting for a word to appear on my monitor by itself, apparently it's required that I persevere – continuing to bang away on this keyboard to make words appear.

Further, Dear, I hope you see the stark contrast between scientists and mystics. Thus, in contrast to the firm commitment by all scientists that all consequences are linked to causes is the equally firm commitment of mystics who “believe” in the “supernatural”, e.g., that linkages between cause and effect can be altered or broken by petitioning some giant, supernatural Superman in the sky. Clerics even go so far as to claim that (if you'll pay them enough) they can show you how to pray to their god so that he'll modify the linkages between cause and effect to lead to outcomes closer to your desires (e.g., that the tornado won't hit your house, that you'll win the lottery, or whatever). Thus, the essence of any prayer of petition is: “Please, God, intervene on my behalf with one of your supernatural stunts to violate causality” (to permit the petitioner to, for example, survive a tornado that's bearing down on him). For some strange reason, the petitioner's god never seems to intervene with greater frequency than occurs by the natural randomness of such events!

To try to help you to avoid be similarly misled, Dear, in later chapters I'll be urging you to evaluate all your “beliefs”, i.e., evaluate probabilities. In this regard, please reconsider Alan Watts' point that “lief” means “wish”; therefore, “be-lief” literally means “wish to be”. Of course, “believers” say that they don't just wish, they “know” (e.g., that their god exists), but actually, what they obviously don't know is what ‘knowledge’ means.

## KNOWLEDGE

When we say that we have ‘knowledge’ about a subject, it means (or should mean!) that we have a useful working-hypothesis about the subject. As I've already written many times, such a hypothesis must be a succinct summary

\* Go to other chapters *via*

of a substantial quantity of reliable data, it must have predictive capability, its predictions must have been subjected to a substantial number of tests, and the results of the tests must support the concept that the hypothesis is approaching “truth”. As I’ll describe in detail in a later chapter (in **T**, dealing with “Truth”), such tests can’t “prove” that the hypothesis is “true” (for “proof” and “truth” have nothing to do with things and processes in the real world – we can’t even “prove” that we exist!), but if the hypothesis has passed all its tests, then we can use it as a useful working- hypothesis, i.e., a claim to some knowledge or understanding of the subject.

In contrast, Dear, if someone says to you something similar to “Every time I look at a tree, or hear a bird, or hold a baby, then I know God exists”, then probably the best way to respond is just smile. You’ll just be frustrated using words to try to communicate with someone who doesn’t use words carefully: if you ask them how they “know” they will probably say something similar to “I know it in my heart” (which is quite amazing when one considers that there are no neurons in one’s heart); if you ask them what “God” is, they’ll probably say something similar to “God is love” (which for the God of our culture is really quite amazing, if one considers the atrocities that are described in the Bible and what this God reportedly advocated, such as murder, wholesale slaughter of men, women, and children, slavery, enslavement of women, etc., as I’ll detail later in this book). In general, it’s pointless to attempt to engage in a rational discussion with someone who has abandoned reason, ignores relevant data, and uses words carelessly.

Further, Dear, I hope you’ll examine and be careful of all your “beliefs”, because contained in them are some of what you wish for. That is, again, “lief” means ‘wish’; therefore a belief is what you *wish* to be. And as the familiar saying goes: “Be careful of what you wish for (viz., “believe”), because it may come true!” In that regard, think of “belief in God”. Would you really wish for a god to be (i.e., to exist)? Would you really be pleased if this universe were under the control of some giant Superman in the sky who could do anything “he” pleased?

Think about it. If there were such a god, it would mean that, while “he” did anything he pleased, you wouldn’t be able to figure out what was going on! Anytime “he” felt like it, he could zap another miracle (i.e., an event that was in conflict with the “laws” of nature). In turn, that would mean that the “laws” of nature could never be trusted: every time we (mere humans) had figured out, for example, that  $A \equiv A$  and  $A \neq \neg A$ , that apples fall toward the

\* Go to other chapters *via*

Earth's center, that  $E = mc^2$ , and similar, some Superman/god could change the rules:  $E = mc^2$  except... whoops, apples always fall except... whoops; a banana is a banana except... whoops! That is, the order in the universe that humans have been able to discover (through the scientific method) would be demolished. Thus, Dear, be careful what you wish for – in case it might occur: to believe in any god is to wish for chaos! To pray for help from Jesus or God is to beg that the existing order in the universe be destroyed!

Nonetheless, all scientists are amenable to the idea that there is a god (or better, they *were* amenable to the idea, until they got bored with it!) – they just demand some data that support the idea – and then results from similar experiments performed independently – and then predictions of the theory – and then experimental test of the predictions – and so on! But if someone ever does provide sufficient evidence to support the god idea, then scientists certainly would accept a “god hypothesis” – that is, as with any hypothesis, they'd continue to use it (as a useful working-hypothesis) until it's found to be unreliable. That's what science is all about. No hypothesis is “sacred”. Any and all hypotheses are continuously tested until one of two things happens: either people get “sick and tired” of trying to demonstrate that a particular hypothesis is wrong and call it a scientific principle, or its predictions are found to be wrong and the hypothesis is junked (or in some cases, revised, so that the revised hypothesis conforms to the new data).

Yet, maybe you've heard the statement: “Many scientists believe in God.” That's true enough, as far as it goes. Thus, ample data support the statement that many scientists have believed and still do believe in various gods. But, Dear, very few people (if any!) are “full-time scientists”, just as you aren't a full-time artist, a full-time dancer, or a full-time student (thus, for example, I've seen you *teach* “the kids”). That is, humans are “multi-faceted and multi-functional creatures”, and when someone who's a “part-time scientist” (including someone employed as a scientist) states a belief in god, it means that such a person either hasn't applied the scientific method to the “god idea” or has, but has made some very major errors – which wouldn't be first time that a scientist has made a major error!

Thus, Dear, just as some police (who swear to uphold the law) are crooks and just as some clerics (who swear to be “morally upstanding”) commit some terribly immoral acts, some scientists practice bad science. Illustrative is the following, taken from the 29 June 1987 issue of *Newsweek*, p. 23 (as given in Aiken's collection of quotes):

By one count there are some 700 scientists with respectable academic credentials (out of a total of 480,000 U.S. earth and life scientists) who give credence to creation-science, the general theory that complex life forms did not evolve but appeared abruptly.

That means that only 0.15% of these scientists have “gone bad”, which probably is comparable to (or maybe even better than) the percentage of cops and clerics that have “gone bad”. Thus, recently I read that ~3% of Irish priest have been indicted for child molestation – which is much worse (in more ways than one – and these were only the priests who were ‘indicted’!) than the percentage of earth-scientists who have “gone bad” and bought into “creationism”.

And while I’m mentioning foolish and faulty “beliefs”, let me show you some other comments about “beliefs”, as given in a list of quotations in Carroll’s *Skeptic’s Dictionary* (already referenced):

Nothing is so firmly believed as that which is least known. [Montaigne, 1533-1592]

For what a man would like to be true, that he more readily believes.  
[Francis Bacon, 1561-1626]

Earthly minds, like mud walls, resist the strongest batteries; and though, perhaps, sometimes the force of a clear argument may make some impression, yet they nevertheless stand firm, keep out the enemy, truth, that would captivate or disturb them. [John Locke, 1632-1704]

The man scarce lives who is not more credulous than he ought to be. The natural disposition is always to believe. It is acquired wisdom and experience only that teach incredulity, and they very seldom teach it enough. [Adam Smith, 1723-1790]

Belief is not the beginning but the end of all knowledge... We are never deceived; we deceive ourselves. [Johann Wolfgang von Goethe, 1749-1832]

Credulity is the man’s weakness, but the child’s strength.  
[Charles Lamb, 1775-1834]

The practical effect of a belief is the real test of its soundness.  
[J.A. Froude, 1818-1894]

I know that most men, including those at ease with problems of the greatest complexity, can seldom accept even the simplest and most obvious truth if it be such as would oblige them to admit the falsity of conclusions which they have delighted in

explaining to colleagues, which they have proudly taught to others, and which they have woven, thread by thread, into the fabric of their lives. [Leo Tolstoy, 1828-1910]

Today the intelligence of the world denies the miraculous. Ignorance is the soil of the supernatural. The foundation of Christianity has crumbled, has disappeared, and the entire fabric must fall. The natural is true. The miraculous is false.  
[Robert Ingersoll, 1833-1899]

Cursed is he that does not know when to shut his mind. An open mind is all very well in its way, but it ought not to be so open that there is no keeping anything in or out of it. It should be capable of shutting its doors sometimes, or may be found a little draughty. [Samuel Butler, 1835-1902]

We have only to believe. And the more threatening and irreducible reality appears, the more firmly and desperately must we believe. Then, little by little, we shall see the universal horror unbend, and then smile upon us, and then take us in its more than human arms. [Pierre Teilhard de Chardin, 1881-1955]

What is wanted is not the will to believe, but the will to find out, which is the exact opposite. [Bertrand Russell, 1872-1970]

The word ‘belief’ is a difficult thing for me. I don’t believe. I must have a reason for a certain hypothesis. [Carl Gustave Jung, 1875-1961]

### FALLACIES OF ‘FAITH’

Similar to the above assessment by Jung about the word ‘belief’ are assessments of the word ‘faith’. Webster gives as the primary definition of ‘faith’: “unquestioning belief that does not require proof or evidence.” But, Dear, before accepting any concept, you should always demand “proof or evidence”! Dare I remind you of the line: “Show me the data!”? Thereby, nothing should be accepted on “faith”! Meanwhile, though, all organized religions corrupt thinking by requiring that data and reasoning be replaced by “faith”. Thus, Dear, please be careful with the concept of ‘faith’, because it contains multiple fallacies, some of which I’ll summarize as follows.

1. ‘Faith’ can be a carelessly used word. One doesn’t have ‘faith’ that the sun will rise tomorrow but ‘expectation’ – expectation based on past experiences and no new data. Similarly, one has expectations (not faith) re. gravity, expectations (not faith) in reason, etc. One doesn’t need constant reaffirmation of expectations about gravity; in fact, many of us sometimes wish it would turn off, e.g., when we trip over something!
2. Religious faith is subjective. Religious people want their ‘faith’ to be ‘true’. Subjectivity, however, is generally detrimental to developing knowledge: for

example, objectively, gravity is as it is – whether or not one likes it, and whether or not it causes you to trip and fall!

3. Religious faith is a euphemism<sup>3</sup> for lack of knowledge. Not knowing, religious people adopt assumptions about the unknown. Religious faith consists of a set of assumption – based, as I'll take pains to show you, on a misunderstanding of the data and illogical massaging of assumptions.
4. There are multiple religious faiths. How does one choose which one to trust? The choice is obviously based on something besides faith! To uncover the origin of one's religious faith, one must dig into feelings disguised as faith.
5. Thereby, religious faith is a ruse. 'Faith' is a euphemism for refusing to evaluate. In reality, as I'll try to show you, it's impossible to choose a religion based on 'faith'; in reality, there must be some other base (or bases) of one's choice.

Below, I'll try to explain some items in the above list more clearly. To start, I'll again quote from Bertrand Russell's essay "On the Value of Skepticism", in which perhaps he went too far.

I wish to propose for the reader's favorable consideration a doctrine which may, I fear, appear wildly paradoxical and subversive. The doctrine in question is this: *that it is undesirable to believe a proposition when there is no ground whatever for supposing it true.* I must, of course, admit that, if such an opinion became common, it would completely transform our social life and our political system; since both are at present faultless, this must weigh against it. I am also aware (what is more serious) that it would tend to diminish the incomes of clairvoyants, bookmakers, bishops, and others who live on the irrational hopes of those who have done nothing to deserve good fortune here or hereafter.

I suggest that, with the above, Russell perhaps "went too far" because, although I totally agree "that it is undesirable to believe a proposition when there is no ground whatever for supposing it true", yet at the same time, I doubt that anyone chooses to believe any proposition without thinking that, in fact, there are "grounds" or "reasons" for making such a decision.

But maybe Russell is right. Maybe some people do make decisions without any thought. A hint of this lack of thought is when people make decisions about God (or about the choice of a particular religion, or similar) based on "faith". This "method" of making decisions is encouraged in a quotation

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<sup>3</sup> Dear, according to my dictionary, a euphemism is "a word or phrase used in place of a term that might be considered too direct, harsh, unpleasant, or offensive", or "the use of a word or phrase that is more neutral, vague, or indirect to replace a direct, harsh, unpleasant, or offensive term."

from the Book of Mormon given in an earlier chapter (where it states “if ye shall ask with a sincere heart, with real intent, having faith in Christ...”); you can find the same idea frequently repeated in the New Testament, which urges Christians to “have faith” in Jesus. What I suggested in my list on the previous page and will try to explain below, is that the idea of making decisions based on “faith” is entirely fallacious: making a decision about God (or anything else) based only on “faith” means not only making a decision without thinking but also it’s quite impossible: a decision about faith can’t be made on faith alone; the decision is based on other factors – factors of which the “faithful” are almost certainly unaware.

Let me try to show you what I mean. First, Dear, in which “holy book” is a “believer” to have “faith”: the Book of Mormon, the Bible, the Koran, the Vedas, or what? And in which “prophet” is a “believer” to “have faith”: Joseph Smith, Muhammad, Jesus, Moses, or...? More to the point: how is the prospective “believer” to make the choice? Stated differently, Dear, no one can make a decision based on “faith”, because there are too many options from which to choose. Consequently, you must first choose in which “faith” to have faith (!) – and before you choose a specific faith, then your choice must obviously be based on something other than faith!

Again, what people describe as their [religious] “faith” is just someone’s theory. And whereas there are a huge number of these theories, a choice must be made. So, a decision based on “faith” is actually a choice of a particular theory, and so, the obvious question is: how to choose? The choice of a particular “faith” must be based on some other criterion or criteria, but what? Choose the same “faith” as chosen by family members or friends, the distance to different churches, the wealth (or whatever) of the church members, the music, or what? That is, someone who claims to base a decision only on “faith” has actually made a choice based on factors probably not considered. Therefore, maybe Russell is right: some people do make even important decisions without thinking.

But, Dear, returning to some more significant points, please 1) don’t pretend to base your decisions solely on “faith” (because it’s impossible!), 2) except in life threatening circumstances, don’t rely solely on emotion or instinct, and 3) for those decisions for which you have time to think, don’t base your decisions even on reason alone. As I’ll show you in detail in later chapters, Aristotle, Paine, and many others (including your father) demonstrated how reasoned interpretation of data can so easily lead to faulty conclusions.

\* Go to other chapters *via*

Instead, when one reaches an interpretation of data (with one's interpretation of course reached by reasoning), then it's necessary to test this interpretation (or hypothesis) against additional data. That is, as I wrote in an earlier chapter, it's not reason that should be given "final authority" over your decisions, but data – in particular, data that tests conclusions reached by reasoning – which is the essence of the scientific method.

Now, Dear, if that were all there was to (religious) belief and faith (viz., words used poorly and silly speculations of and decisions by immature minds), then my response to all such beliefs and faiths would be somewhere between a shrug and a condensing smile – assuming I could constrain my laughter! But with their nonsense, religious people continue to damage innocent people (especially children), in ways from twisting them into emotional and logical "double binds" to murdering them in "holy wars". Therefore, rather than shrug off religious nonsense or smile or laugh at religious people, many of us get quite angry – especially at the promoters of such nonsense (i.e., the clerics of the various religions), who profit from their con games.

Consider the following two quotes from authors who make the same point but much better than can I – and less emotionally.

Faith – fondly called "the most precious heritage of the race" – is not a thing whereof to be proud; it is not Intelligent or of Reason. Not a flicker of intelligence is required to believe: millions of the most illiterate and ignorant of Earth's teeming populations are the firmest in their "faith" in every form of religious superstition known to the priests of the world, the most devout believers of this or that imposture – "most assured of what they are most ignorant" withal. Indeed, as aptly quoted: "Unbelief is no crime that Ignorance was ever capable of being guilty of." Buckle truly says that to the secular and skeptical spirit European civilization owes its origin: that "it is evident that until doubt began, progress was impossible"; and the Catholic Encyclopedia has confessed, as is also self-evident – "Toleration only came in when Faith went out." What a boon then to humanity to hasten and complete its going!  
[Joseph Wheless, *Forgery in Christianity*]

When the preacher asks us to have faith, he asks for obedience, obedience without question. We must accept unthinkingly whatever he tells us is so. When Shia and Sunni [Muslims] are asked to murder on the fields of battle, both following leaders who tell them they are then assured a place in Heaven, they obey. If the dead could return to set things straight, to tell us that "faith" is nothing more than nonsense institutionalized, the hate and murder of all "religious" conflicts would cease. There would be no crusades, inquisitions, witch-hunts, and holy wars. There would be no

Shia and Sunni, no Lutherans and Catholics, no religious sects of any kind, because there would be no “religions”.

[Chester Dolan, *Coming to Grips with “Religion”, the Holy Daze of Humanity*]

But I’m getting ahead of myself. In later chapters, I’ll show you some details of the resulting “worldwide war” (against ignorant religious worldviews) that has been waged throughout at least the past 5,000 years. Instead, let me quote what various people have written about ‘belief’ and ‘faith’ (with most of these quotations taken from Aiken’s collection).

The barbaric religions of primitive worlds hold not a germ of scientific fact, though they claim to explain all. Yet if one of these savages has all the logical ground for his beliefs taken away, he doesn’t stop believing. He then calls his mistaken beliefs ‘faith’ because he knows they are right. And he knows they are right because he has faith. [Harry Harrison]

Faith, indeed, has up to the present not been able to move real mountains... But it can put mountains where there are none. [Friedrich Nietzsche]

Faith in a holy cause is to a considerable extent a substitute for the lost faith in ourselves... [The] majority of people cannot endure the barrenness and futility of their lives unless they have some ardent dedication or some passionate pursuit in which they can lose themselves... Where there is the necessary skill to move mountains, there is no need for the faith that move mountains. [Eric Hoffer]

We may define ‘faith’ as the firm belief in something for which there is no evidence. Where there is evidence, no one speaks of ‘faith.’ We do not speak of faith that two and two are four or that the earth is round. We only speak of faith when we wish to substitute emotion for evidence. The substitution of emotion for evidence is apt to lead to strife, since different groups substitute different emotions. [Bertrand Russell]

Faith in the sense that religionists use the term, it turns out, is equivalent to the loss of confidence of the individuals of the human species to achieve their goals on their own. This seems to be borne out by the adherence to religion among the poor, the spread of religion in times of depression and conflict, and the greater success of all religions to proselytize among deprived populations wherever they may be.

[Chester Dolan]

I finally realized that faith is a cop-out, a defeat – an admission that *the truths of religion* [my italics, because “the truths of religion” is an oxymoron – he means “the assumptions (or assertions) of religion”!] are unknowable through evidence and reason. It is only undemonstrable assertions that require the suspension of reason, and weak ideas that require faith... Faith, by its very invocation, is a transparent admission that religious claims cannot stand on their own two feet... I just lost faith in faith. [Dan Barker]

Again, Dear, please be careful with the concepts of ‘belief’ and ‘faith’. In particular, please try to appreciate the subtle differences between the concepts of ‘belief’ and ‘faith’ versus ‘trust’ and ‘confidence’. All clerics profit from obscuring these subtleties, either purposefully or stupidly.

## TRUST & CONFIDENCE

To remind you of these subtleties, I’ll re-quote the explanation in my copy of Webster’s dictionary, to which I’ve added the notes in brackets:

**SYNONYMS** – **belief**, the term of broadest application in this comparison, implies mental acceptance of something as true [cough, cough] even though absolute certainty may be absent [e.g., to *believe* that some “holy book” is “true”]; **faith** implies complete, unquestioning acceptance of something even in the absence of proof and, especially, of something not supported by reason [e.g., to have *faith* in God]; **trust** implies assurance, often apparently intuitive, in the reliability of someone or some thing [e.g., to *trust* yourself]; **confidence** also suggests such assurance, especially when based on reason or evidence [e.g., to have *confidence* in the scientific method]...

Thereby and again, Dear, please be careful. In particular, please be careful to avoid being hoodwinked (viz., “misled or confused by trickery; duped”). Specifically, please be wary of anyone who first gains your trust and confidence and then uses this trust and confidence to try to get you to accept some ‘belief’ or ‘faith’. That’s the essence of any “con game” (which of course is an abbreviation for “confidence game”). The con artist first attempts to gain “the mark’s” confidence and trust, and then hoodwinks the mark into accepting some “belief” or “faith” – at the mark’s loss and the con artist’s gain.

In essence, that’s what happened to you. Similar to the vast majority of children throughout the world, you were hoodwinked by your parents – although of course, they weren’t consciously acting as con artists, for they, too, had been hoodwinked by the con-artist clerics of your religion (just as were the vast majority of parents by the con-artists of their religion).

Thereby, there seem to be two prime sources of the worldwide curse of indoctrinating children in the religion of their parents. One source is the nature of the child-parent relationship: children must have trust and confidence in their parents. Almost always, this trust and confidence is well placed: most parents provide food, clothing, shelter, love, nurture, etc., to

their children. Relying on the children's trust and confidence in them, the parents then teach their children values, morals... and details of the "one true religion". And thus, Dear, you became a Mormon, just as your other grandparents became Mormons, and just as other people became Methodists, Mennonites, Muslims, or whatever. And of course all parents mean well – they just perpetuate the indoctrination they received from their own parents, who were similarly misled.

Which then reveals the second major source of the worldwide curse of indoctrinating children in religion: behind it all are con-artist clerics. Again, the essence of all con games is first to gain some mark's trust and confidence and then to betray this trust and confidence to get the mark to buy into... whatever, from ocean-front property in Arizona to eternal bliss in paradise. Once a con-artist cleric gets a religion started, once parents start indoctrinate their children, then the con game is "up and running". Thus the notorious slogan of the Jesuit priests, "Give me the child for the first seven years, and I'll give you the man", which Lenin restated as "Give me a child until the age of seven, and I will give you back a communist for life."

Similarly, Dear, think what happened to you – and what happens to the vast majority of children throughout the world. You had trust and confidence in your parents; I've read that children "learn" to grant such trust and confidence when they are less than one year old; it's totally understandable. You trusted that, what your parents told you was "true"; you had confidence in their judgments; you had to! You trusted them when they told you about Santa Claus – and later, when you realized that they had lied to you about Santa Claus, you still had confidence in their abilities to guide children to adulthood, accepting their explanation that "there was value" in perpetuating society's myth about Santa Claus.

Furthermore, and similar to the majority of parents throughout the world, your parents indoctrinated you in the myths of their religion. They taught you to "believe", to "have faith", to trust that what they told you was "true". And as essentially any child would, you transferred your trust and confidence that nature forced you to have in your parents onto trust in confidence in their "beliefs" and "faiths". Therefore, Dear, what I hope you'll do is at least entertain the possibility that the "faith" you have in your religion didn't come from details of your religion but arose from your learned "faith" (or better, trust and confidence) in your parents.

Dear: please think about it, again. Is it possible to reach any decision based only on “faith”? What are the reasons behind your “religious faith”? Do you especially like your religion’s music? Do you like the company? Do you have fond memories associated with the “pomp and circumstances” of your church? Do you...? And you started it all because why? Did you make a conscious decision when you were six-months old that your religion was the only “true religion” – or did it all follow because, by the time you were six-months old, you had developed trust and confidence in your parents and you then transferred that trust and confidence to your religion?

Again, Dear, please think about it. Isn’t it correct that, behind every decision, there’s some evidence, some data, some reasons, some feelings...? Thereby, isn’t all “religious faith” fraudulent, camouflaging an unexamined decision? And now that you’re setting out on your own, isn’t it time for you to base your decisions on your own evaluations?

And meanwhile, Dear, maybe you’re beginning to see why I didn’t try to explain such ideas to you when you were four, when you asked me why I didn’t believe in God. Thus, it’s important for children – for their own survival – to trust their parents. I couldn’t interfere with that trust, because if you didn’t have trust and confidence in your parents’ decision, you could have been run over by a car or...

And you were “run over” – but not by a car: you accepted your parents’ silly ideas about Santa Claus and about gods and immortal souls. But if I had managed to correct those ideas in my grandchildren when they were young, then simultaneously, I would have undermined their trust in their parents. So, I’ve held back until now, when you’re setting out on your own and must replace trust and confidence in parents with trust and confidence in yourself and in whatever else you judge appropriate. And of course I’ll be advocating that you examine if trust and confidence in the scientific method would be well placed – because I’m certain that you’ll find it to be so.

Again, Dear: a child must trust parents. Further, few children have self-confidence (in spite of how little boys, especially, like to brag). As a part of gaining self-confidence, a young adult must be careful about granting trust. Of course you can still have trust and confidence that your parents will always try to help you, but if you will consider the matter carefully, you may want to begin to question how much confidence and trust you can place in

their willingness and/or abilities to examine their own “faiths” – and therefore, how much confidence and trust you can place in their wisdom.

In contrast, my experience has been that trust and confidence in the scientific method has been validated an absolutely enormous number of times. Therefore, I urge you (and will continue to urge you throughout the rest of this book) to consider replacing your “beliefs” and “faiths” (derived from your childhood trust and confidence in your parents’ truthfulness and wisdom) with confidence in the scientific method and with trust in yourself.

And let me add something that I’m sure you know, but that’s so important that it should be repeated (again and again): trust and confidence are so hard to develop and so easy to lose! People usually learn that lesson from childhood friendships: first, how difficult it is to gain a person’s trust and confidence, and then, how easy it is to lose such trust and confidence – and therefore a friendship. That lesson is reinforced almost everywhere you look. For example, below I’ll quote a few, short “news items” that are immediately available to me; I’ll omit the references, because all are now “old news”.

- A majority of those polled in Germany, France, and Turkey – and half of all Britons and Russians – believe the Iraq War damaged the fight against terrorism. The loss of trust was particularly great in Germany and France – 82 percent of Germans and 78 percent of French are more distrustful of the United States than they were one year ago...
- The guilty verdicts against Martha Stewart and her stockbroker could prove a mortal blow to her namesake company... “The thing that’s most damaging to Martha Stewart and her company is the idea of a loss of credibility, the loss of trust,” said Kim Cameron, a professor of organization and management at the University of Michigan’s school of business...
- *USA Today* said Friday that an examination of the work of journalist Jack Kelley found strong evidence that the newspaper’s former star foreign correspondent had fabricated substantial portions of at least eight major stories... The three former newspaper editors brought in to conduct the investigation... called Kelley’s conduct “a sad and shameful betrayal of public trust.”

And of course, similar “betrayal of... trust” has occurred (and will undoubtedly continue to occur) in science – because of the behavior of some scientists. But, Dear, I don’t urge you to trust scientists (or scientific results); instead, I urge you to examine if the scientific method, itself,

deserves your confidence. I've found that it does. As Feynman said: "Science [or "the scientific method"] is a way of trying not to fool yourself." Furthermore and in general, just as the "root of money" is trust, essentially all science has been built on an enormous foundation of trust. I'll illustrate by quoting from Jacob Bronowski's *Science and Human Values* (Harper & Row, New York, 1965):

[It] is irrelevant (and metaphysical) to debate whether verification can be absolute, in principle; the question is, how do men in fact verify a statement? How do they confirm or deny the assertion, for example, that "The Crab nebula is the dust of a supernova which exploded in 1054, and it glows because some of its radioactive carbon which was made in the supernova"?

This is a fairly simple speculation, as science goes... [But one] could not verify the historical part of this statement without searching the records of others – and believing [or better, "trusting"] them. And in practice he could not verify the rate of expansion of the Crab nebula, and the processes which might cause it to glow, without the help of a sequence of instrument makers and astronomers and nuclear physicists, specialists in this and that, each of whom he must trust...

It follows that [for science to progress] we must be able to rely on other people, we must be able to trust their word. That is, it follows that there is a principle which binds society together, because without it, the individual would be helpless to tell the true from the false. This principle is truthfulness... theory and experiment alike become meaningless unless the scientist brings to them, and his fellows can assume of him, the respect of lucid honesty with himself.

Meanwhile, Dear, as I'll show you in subsequent chapters, the nemesis of all religions is that they're all built on lies. I expect that, eventually, those lies will be uncovered, and thereby, trust in all religions will be lost.

But in any case, Dear, maybe you now understand why I encourage you to abandon use of the words 'belief' and 'faith'. As a minimum, maybe you'd at least try to placate an old grandfather by no longer using such words when you're communicating with me: don't tell me that you "believe" that it'll rain today; tell me the reasons why you "expect" it will rain; don't tell me that you have "faith" that the sun will come out later today, describe the information, data, models... whatever that support your contention. And if perchance you have any desire to more than just placate a certain old grandfather, then please think about what you really mean before you say "I believe in God" or when you repeat "The Articles of Faith" of your church. Think about it, for example, when you go for a walk – and while thinking about walking, isn't it about time that you...