Issues of Truth

(Retitled from Chap 2 of ***Logic, Truth, and Reasoning: A Textbook on Critical Thinking***, D. Pickard**)**

Truth pursued as something fixed and absolute is arrogant, divisive, and inhumane. Truth seen as nothing more than what people believe is foolish. Truth understood as insight that is pursued with integrity, skill, and the awareness of our own fallibility is a noble pursuit, indeed. The <u>pursuit</u> of truth is more basic than any truth we purport to arrive at.

If the purpose of critical thinking is to get to the truth, then the question of truth is most central. Since the question of truth cannot be addressed apart from the question of meaning and interpretation, then this chapter on truth together with Chapter Four which deals with language, meaning and interpretation both raise the most important issues of the book.

This chapter will be concerned primarily with *meta level* issues (see Ch 1) concerning belief and truth. Problems with *meta level* issues regarding belief and truth can be an enormous impediment to good critical thinking. Any naïve or false beliefs we hold about these issues can interfere tremendously with our desire, willingness, and therefore our ability to reason better. More importantly the issues we will address here have the most profound impact on how we are connected to our beliefs, how we live, and how we get along with others. Far too often it is our "truths" that divide us most. To see that our understanding of "truth" is shot though with misunderstanding is a major step in changing the world for the better.

The first section below deals with misconceptions about truth and language that underlie a great deal of unnecessary human conflict. It shows four ways we can be misled about sources of truth by our beliefs regarding the authority of: 1) Religion, 2) Science, 3) Observation and 4) Experts. The next two sections show why both absolutism & relativism are not reasonable views of truth and why the "Fallibilist View of Truth" succeeds where these fail. The final section discusses the difference between facts and values and shows how to think critically about values.

Though we will not discuss ***belief*** as a separate issue, our relation to what we think is true is through belief. To believe something is to choose to be committed to it as true. Since we act on our beliefs as if they are true and our actions have consequences for ourselves and others, what we believe to be true is often extremely important. So how we arrive at our beliefs and whether they are warranted by good reasoning and evidence is often a crucial matter.

Misconceptions about Truth

A. Language and Truth:

Chapter 4 is entirely about language and meaning. We will only say enough here to show how important language is to the question of truth. Language is a very subtle and varied activity by which we do many different things. The critical thinker can distinguish between *literal, conceptual* discourse and *figurative, symbolic, poetical or mythopoetica*l discourse. Literal discourse is predominate when we want to be conceptually precise as in science, law, medicine, business, etc., and also much of everyday discourse, for example: A guy walks in from a long day of work and says "I'm dead." A woman says of her husband, "I had to twist his arm to get him to come with me." Taken literally the first would be impossible for a dead man to speak these words and in the second if taken literally it would be silly.

We use figurative discourse to grasp a situation more powerfully and succinctly with metaphors and symbols. Sometimes a word can be both literal and figurative depending on context such as when we use the words democracy or freedom. Literal and figurative discourse are often mixed together, for example in stories about the past, in religious sacred texts and in a nation's or a culture's self-understanding. **Literal discourse** aims at literal, conceptual, factual truth. Poetical and **symbolic discourse** aims at a felt sense of what is most significant and important to a people or a person. To fail to distinguish these different uses of

language is to invite a conflict between them. For example, if everything in the Bible is taken as literally true, this leads to the unavoidable self-contradictoriness of many of its "truths." But since a great novel, which is purely fiction, can often reveal what is true about ourselves and the world better than non-fiction, why should we think great sacred texts, such as the Bible, the Vedas, or the Koran, could not also provide great wisdom without even raising the question of its literalness? Non fiction writing attempts to give us the facts organized via some interpretive arrangement of those facts. Poetical writing, fiction, and myth can be deeply revealing and powerful in proving a guide for our self- understanding and for living our lives. The question of whether it is literally true or not often just obscures this value and does not promote it. So we are justified in thinking of truth in at least two different ways that often need to be distinguished to avoid confusion, if not disaster: one is *literal/factual truth*. The other is *figurative, symbolic, metaphorical, poetical truth*. The latter is no less, in fact often far more powerful and important than the first, for example, in guiding us in what is true about what we ***ought*** to do. Literal/factual truth, on the other hand, should be our guide in what is ***factually true*** about the world. However, since facts do not merely speak for themselves, but must always be brought under some interpretation guided by some purpose and sense of what is important, mere literal/factual truth is never sufficient for deciding what is important and what we should do.

We have seen that "truth" does not have only one meaning. In one sense it refers to what we aim at in *literal discourse* (for example, in a recipe for baking a cake, in scientific research, in business, etc.). In another sense, it refers to what we aim at in grasping and understanding what is important (a work of fiction, such as a novel, might tell us more about the truth of human experience than any facts or literal and adequate descriptions of the world). Well-reasonedness is our only access to the truth in literal discourse (for example, does the sun orbit the earth or vice versa?). Great fiction literature, sacred texts, poetic expression can often move us to arrive at insights (truths) about what is most fundamentally important, for example, the richness and complexity of human experience, the suffering of other people, how to cope with our own suffering, how to change our attitudes toward ourselves and others, insight in how to live a better life, etc.. In this latter case, it is less simple to show how reasoning, in the sense of straightforward argumentation, plays a role. But it can and does. In this area, as Wittgenstein and Nietzsche point out, we must often first come to "see" things a certain way, from a certain perspective, before arguments can even have their usefulness and power. Certain limits, values, and purposes must already be in place. In this sense, it is not what the facts are that is so important, but what they mean, which of them are important and why. Reason certainly *can* operate well here, but it only works well if we see what is going on in language. The fact that much of our language is a mix of literal and non literal discourse and that many issues are commingled often makes it crucial that we can critically distinguish these two different uses of language and approaches to truth. That itself is, of course, a skill of critical thinking. Hence, critical thinking is always at issue in the question of truth, literal or figurative. The meta level distinction between types of language use and truth would, for example, reveal that the entire creationist versus evolutionist debate is a false dilemma, a confusion in language use, and that it is the attempt to force non literal discourse or mixed literal and non literal discourse to do the job of literal discourse. Once this confusion about truth and language is cleared up through critical thinking, these kinds of problems are not "solved," they just *dissolve*.

B. Truth and Importance

Things matter to human beings, not always the same things, but many of the same kinds of things. The accounts we give ourselves about reality and value grow out of this fact that we hold things to be important. Unfortunately, the "truths" we believe in with regard to what we take to be most important have come to take precedence over importance itself: Truth has become the most important thing, or at least the appearance of truth. This has often led to self-righteous condemnation of the beliefs of others that conflict with and threaten our own truths. If, on the other hand, we realize that we are all beings to whom things matter, we are valuers, judgers, and that all our "truths" arise from the actual world, but also from our needs and from what we value and hold important, then we can see *importance* as taking precedence over *truth*. We may then more reasonably use our intelligence to investigate

ourselves and the world, rather than defending our "truths."

Truth and importance both arise in the context of interpreting, valuing, and making sense of things. We can use the distinction to think of truth as the most reasonable view we hold at a given time that is always open to revision on the basis of further evidence and reasoning. This leaves our deepest felt sense of things, what we often refer to as the sacred, untrammeled by petty demands for truth in this sense. The ***sacred*** is that capacity in humans to feel most deeply that things matter. The source of this importance can be pointed to in poetic language, but never grasped as a literal truth. The sacred cannot be approached through truth, but only through our deepest feelings of wonder, horror, anguish, and awe. It can only be approached when we let go of our "truths" and surrender ourselves to the abyss of unknowing. We are conditioned by language, culture, and our own sense of ourselves to only see the world through our comfortable truths and what is familiar. We don't even realize we do this until something ruptures our world of meaning. We then have an opportunity to deal with deep importance rather than truth. But instead, we usually try to get back as quickly as possible to the familiar and miss the opportunity for growth that comes only when we face the loss of our meaning or when our sense of wonder makes our world strange and new. Insofar as we hold to our truths we can never really approach the sacred and be transformed by it. The sacred is "deeper" than any truth. It can only be approached by letting go of our truths. That is very hard to do. Where reason can be well used, the question of truth can be guided by the open-ended definition we have used here. When it comes to what reason cannot address, the fact of our deep sense of vulnerability, we must let go of the demand for truth. The world around us usually demands the former, our deep inner spiritual need demands the latter.

C. Truth and Facts

As we saw above, fiction can sometimes express truth more powerfully than fact. The word **fact** is often confused with the notion of **truth**. In our ordinary lexicons (dictionaries), the term fact is said to be similar to or synonymous with "information" "truth" "reality" "actuality." A fact is thought to be something that can be known to be true, to exist, or to have happened. It is defined as the true or actual existence of something, as opposed to its supposition or beliefs about it. The antonym of fact in the dictionary is fiction. But if fact means truth and fictions sometimes express truth far better than mere facts, then the critical thinker needs to be careful with this term fact and not confuse it with truth.

This very loose and unexamined way of thinking about facts is fine as long as we operate in the normal flow of language and meaning. However, what a fact is becomes very difficult to say if we really try to clarify it. For example: What are the identity conditions for facts? What makes a fact, a fact? Are facts complex or simple and indivisible (atomic)? If complex, what are they composed of? Are there facts containing abstract objects and properties, for example the *fact* that 2 is a numeral that stands for number? Are there negative facts or conditional facts, or possible as opposed to substantial facts? What is the relation between facts, on the one hand, and concrete events, processes and states, on the other hand? Do objects stand in relations *because* the objects and the relations they stand in are parts of facts? If concrete events, processes and states are identical with facts or can be constructed out of facts, then it is plausible to think that causality is a relation between facts. What is the relation between facts and events? If we count events as a species of fact, then this would make the notion of fact, at least in the case of events, problematic in the way the notion of an event is. The notion of an event usually carries with it assumptions and claims about temporal location and order, cause and effect, and finally about the nature of time. Do events stand alone or do they contain other events? For example, was World War II, which is a fact, an event with many identifiable events in it, such as the Battle of the Bulge? If so, WWII must have had a beginning and an end and so did each of the events "contained in" that event. But trying to state the exact temporal location of the beginning of WWII or any of the "sub events" is virtually impossible. Did it start when Hitler invaded Austria or when he invaded Poland? If the latter, then did it begin when he first thought of the idea? Or when the first troops crossed the border? Or when the reconnaissance German troops had infiltrated Poland months before? There is no doubt that we can talk intelligibly about the fact of WWII, but what we say is already in a meaningful context that already presupposes the language and purposes that sets up our claims and questions to begin with. There is nothing intrinsic

to experience that allows us to ultimately reduce it to events or facts. These notions are themselves integral to the interpretive or hermeneutical conditions of being able to have intelligible experience and say or claim anything at all.

What we do not want to do is ignore the limits and slipperiness of the notions of *truth* and *fact*. And we do not want to associate them with certainty, which is itself a very slippery notion. (The reasons for this will be given in several sections below.) For our purposes we will use the word factual thus: A claim is said to be factual when it has been well-supported by sufficient evidence and/or supporting argumentation that is well-reasoned, guided by some *meaningful purpose* and context that guides our interpretation of our experience and thinking about what is at issue (for example, in a murder case guided by our moral and legal views and purposes; in scientific research guided by our desire to understand and control nature via some rigorous and well-developed method of discovery and explanation; or in everyday practical affairs, such as finding out where a restaurant is located so we can satisfy our desires and needs). Facts are never stronger than the best reasoning and evidence that support them at some point in time.

It is a fact that the sun appears in the sky each day. But what view of the world we hold on that basis is a matter of further evidence and good reasoning. It was considered a fact before Copernicus that the sun revolved around the earth and it was reasonable to believe this until Kepler, Brahe, Copernicus, and others provided further evidence and reasoning that now makes it more reasonable to say the earth circles the sun. Notice that the fact of the phenomenon of light in the sky we call the sun is not self-explanatory. It requires reasoning to arrive at a point of view that coherently brings together the data. Given our best reasoning and evidence at the time, it was reasonable to believe in 1300 that the sun orbited the earth. Given our best reasoning and evidence, it was a fact. It would be wrong, of course, to say that in 1300 the sun orbited the earth, but after 1600 the earth orbited the sun. It is *reasonable* to say that the latter was always *true*, but in the absence of enough evidence, it was reasonable to believe the former before 1500 to 1600.

The "certainty" that 2+2=4 was considered a "fact" (and still is by most people) before Kurt Goedel's famous incompleteness theorems published in 1931. So now to say that it is a certainty that 2+2=4 is simply the wrong way to state it, since that is not the case with formal systems such as arithmetic in which the system is either inconsistent or incomplete (i.e., no certainty).[21] This in no way makes arithmetic work any less well than it ever has. What it showed was that there was something flawed in our assumptions and demands about truth understood as certainty.

It is a *fact* that we have not been attacked since 9/11. But what that fact is used to support, such as the Bush Administration's interrogation policies as the cause of there being no further attacks or the claim that we would have been less safe if Bush had not had a second term, is an entirely other matter, one that can only be addressed through well-reasoned arguments.

No argument gets to "The Truth." But some of arguments are clearly far more well-reasoned than others and those are the ones we should tentatively believe until better arguments come along. The great problem is that most people cannot sufficiently recognize better from poorer reasoning, which is what we are attempting to help correct in this text.

Truth and **fact** have different meanings. **Facts** are conclusions of well-reasoned arguments that can turn out to be wrong on the basis of better evidence and/or reasoning that always operates in the larger contest of a language and way of life. **Truth**, on the other hand, cannot be wrong, i.e. false. To say such would be a contradiction. There can be no literal false truths, (though we could say that figuratively). The question is, then, what is truth and how do we get it? As we shall see, the word truth is ambiguous and there are many misconceptions about it. It will be argued that truth has several meanings and is something we aim at but never possess, at least not as

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[21] There can be no closure, no formal algorithmic system for accessing something called Truth. Even the philosophy of logic and mathematics in the works of Goedel, Church, and others has ironically demonstrated formally that no formal system can achieve both closure or completeness and logical consistency (see, for example, John Kadvany, "Reflections On The Legacy of Kurt Goedel: Mathematics, Skepticism, Postmodernism," in ***The Philosophical Forum***, Vol. XX, No. 3, Spring 1989). For an historical overview of this development by an eminent mathematician, see Morris Kline, ***Mathematics: The Loss of Certainty***, (Oxford: Oxford Univ. Press, 1980). The famous logical problem of decidability demonstrates the basic reflexive nature of language and meaning. The very recognition of this feature of human thought depends reflexively on the structure, limits and rules by which our thinking about all this is guided. Reflexivity has no end as we attempt to move outward to any final limit or perspective that will logically entail what has made any perspective possible. What is exciting to logicians is that Church's Thesis on undecidability is taken to be an ***apriori*** result for all human thought, i.e., it is a truth of human thought not arrived at by empirical evidence. There is a massive literature on undecidability, for example, the "diagonal problem" and other forms of the "halting problem" that reveals this. (See "Philosophical Hermeneutics" Appendix p. 156)

certainty, except in the definitional sense, such as "All bachelors are unmarried" of tautologies such as, "This book is this book." These tell us nothing about what we are usually after when we pursue the truth of some matter or other. We want to improve our hermeneutical awareness of the very conditions of the possibility of the meaning in which we pursue and make claims to truth.

D. Some Erroneous Beliefs & Attitudes

About <u>Sources</u> of Truth As children we naturally rely on the knowledge and judgment of others. But eventually this must be replaced with seeking answers through evidence and reasoning if we are to achieve genuine autonomy. People, even well meaning experts and authority figures, are fallible. The habit in early childhood of seeking answers from others is misleading in several ways. We tend to believe that answers to questions should come from authorities rather than our own reasoning. We tend to believe that truth is absolute, resting on a foundation or authority that should not be questioned. When no authority seems to exist, we then tend to believe in some form of relativism as the only alternative. These beliefs are not only false, but are a barrier to using our own reasoning powers. They foster what can be called ***"the myth of the truth teller."*** This myth is ironically the basis for over-reliance on experts or leaders and at the same time a cynical rejection of the idea that some people's opinions are better than others. Belief in absolute foundational truth shows distaste for coping with the uncertainty and ambiguity of life.

Each of us has many beliefs and attitudes that guide our actions. They come from many sources and have their meaning within a broad way of life we call civilization. They are always intelligible within some linguistic, cultural context. More specifically, we get our beliefs and attitudes from our families, our friends, religious and political leaders, the media, school, teachers, books and life experience. All our beliefs and attitudes taken together can be referred to as our world view. Our world view includes many subsystems of beliefs. These beliefs and attitudes are usually not well-integrated, consistent or well thought out. We believe many things without having any understanding of how and why those beliefs make sense, yet we have the illusion that our beliefs are our own and are obviously correct. For example, we believe in many of the findings of science, yet most of us have virtually no idea how and why such scientific truths are arrived at and justified. They ***are*** justified, but if you don't know why and how, then they are not truly your own beliefs. They are merely borrowed, taken on the authority of others rather than the authority of our own ability to reason well. Thus, they are ***reason substitutes***. When a belief is only based on some motive from desire, familiarity, trust of another, etc., and is not the result of one's own reasoning, it is not an authentic belief because we do not know or understand any reasons for believing it. The main criteria for agreeing with various claims often is simply a matter of what is familiar and comfortable, what we are used to, our habits and customs, and who we are in the habit of taking as authorities. Our reasoning, when we do it at all, is simply an attempt to defend and continue to hold our familiar beliefs. When these beliefs are inconsistent, we often fail to recognize it. When they are challenged, we feel threatened and simply seek reassurance from those who hold similar beliefs and condemn or avoid those who present such challenges.

As we have already seen, since our beliefs and attitudes have a great impact on our actions, there is much at stake for ourselves and others in what we believe. What we mistakenly take as justification for our beliefs often arises from erroneous beliefs about truth and the sources of truth.

Foundationalism *is the erroneous view that in order for something to be true, it must rest upon a foundation that is itself self-evident, unquestionable, and self-supporting like the foundation of a building.* The metaphor of a foundation is a misleading metaphor. Truth is not something that is final, fixed or foundational. It is an on-going achievement and is the result of an open-ended, self-correcting process of good reasoning. The standards we appeal to in this process are themselves subject to questioning, but always within the context of arriving at some more intelligible view. To treat something as a final truth is to pretend there is no further possibility of better interpretations.

E. Truth and Appeal to Authority[22]

Below are four ways we can be misled about sources of truth by our beliefs regarding the authority of: 1) Religion, 2) Science, 3) Observation and 4) Experts

E1. Authority of Religion and Privileged Texts: There is a widespread confusion about the role of sacred texts and about the sacred itself. A text can be deeply revered as sacred without dogmatically asserting its status as foundational for deciding what is well-reasoned. The confusion of the terms "sacred" and "true" creates a great deal of unnecessary conflict and suffering. To take a sacred text as foundational and literally true is disastrous in two ways: 1) It actually undermines its sacredness, and 2) if taken literally, one is then forced to deny any other sacred text as truly sacred, since only your sacred text is taken to be true.

The first problem is that the word true is ambiguous. Literal truth is not the only kind of truth. A sacred text can reveal many deep insights or truths about the human condition, just as a great novel can. All sacred texts are written in mythopoeic, symbolic discourse which aims at a deeply felt sense of reverence and answers a need to be connected to the world in a deeply significant way. These texts often mix literal and symbolic discourse. If we force sacred texts to live up to strict standards of self-consistency and literal truth that we never require of other deeply poetical expressions of feeling in poetry and lyrics, for example, then its sacredness become confused with literal truth and is undermined. This forces the unnecessary choice of either accepting it on blind fanatical faith or rejecting it as nonsense. In either case, the power of its sacredness and its revealing insights on the human condition are lost, in the first case, to ideological rationalization and blind fanaticism and in the second case, to confused and thoughtless skepticism.

The second problem is that those who claim a religious text as not only sacred, but foundational, must show why that particular text ought to be considered so rather than some other sacred text, (i.e., the Bible as opposed to the Koran, or the Vedas). In addition, they must show that ***their*** interpretation of their own sacred text is correct and that conflicting interpretations by others who also take the text as sacred and foundational are wrong. Further, if the attempt is made to justify belief in a particular sacred text on the grounds that it is the revealed word of God, then the text itself is no longer foundational, but rather its source becomes foundational, that is, God. But since other sacred texts make similar claims about God, the problem of choosing between them is simply moved to another level, the question then becomes, which text **is** the revealed word of God? The claim is often made that no justification is needed because the truth of a particular sacred text is "based on faith." The question here is what motivates this phrase "based on faith." If it is used to simply close rational debate, then it has little to do with the sacred and with faith, but is an instance of *fanatical closure*, a sign of fear of reasonable inquiry. Such a move is dangerous since if it is accepted as a legitimate move in public debate, then the possibility of democracy, which cannot exist without public use of rational debate, is undermined.

It would be instructive here to remember what one of the greatest Christians, Augustine, said about interpretation of sacred texts: To paraphrase the last chapter of his book ***My Confessions***: since a sacred text is a text aimed at spiritual transformation in the lived experience of the reader, no interpretation can claim to be true exclusively of any other. Rather, if the interpretation brings the reader to live in the presence of the sacred, then the interpretation was "true" or successful. As long as one approaches the sacred with the attitude of deep humility and does not have the arrogance to claim to know the truth, then one has the most appropriate attitude with which to approach the sacred. This is entirely unsatisfactory from an historical, scientific, or logical/textual approach. But Augustine warns that logical and historical thinking should guide us when looking at the world, but not when we approach the sacred/God. Likewise, to historicize or logicize a sacred text is to undermine its purpose and power. The sacred, which for Augustine is not something that can be addressed with historical or logical thinking, can only be approached with the deepest humility, with the attitude that one knows nothing with regard to the deepest mysteries. It is arrogance to think otherwise. On the other hand, self-correcting well-reasonedness is our best and most responsible approach to what **is** open to our understanding about the immediate world we experience.

Faith is something we have in the absence of understanding and knowledge. Faith is only possible in the context of doubt and absence of any basis for belief or knowledge. Based on the

[22]See Part III: Religion, Philosophy, and Science in the Appendix

meanings of the words "faith" and "know," having faith that God exists would not just be unnecessary but totally impossible if you already "knew" he exists. But since God is eternal, not in time or space, then evidence for God is impossible. That the world exists at all is a mystery, not evidence for the particular deity I believe in. Belief in God is a matter of faith. If one's convictions are based on faith, then they have nothing to do with evidence and the strength of such convictions does not determine their truth. To try to base any truth about the sacred on evidence is to undermine its sacredness as we pointed out above. One's intensity about such matters is indicative of one's needs, not the truth of the belief.

E2. Authority of Science: Scientism Science can also be misused as a source of foundational truth. The insistence and faith that science and only science can provide truth and that this is based on some sort of detached objectivity that can penetrate a reality that is just out there independently of us, is called **positivism** or **scientism**. *Science* is NOT scientism and does not need such a naïve view of science in order to be successful. The sciences are processes of skeptically testing observations under some well-developed, well-confirmed interpretive theoretical framework. Scientism appeals to the methods of science as the exclusive path to truth, yet cannot scientifically support its assumptions about science. The most basic assumptions of science are not themselves scientifically verifiable, such as, the assumption that by mathematizing space and time you can produce something called knowledge. This is a valuable and an enabling assumption, but it is unexamined and unproven within science. It can't be. It is a basic logical surd or starting point that allows science to even function at all, as does the commitment to the *value* of objectivity, which is another basic and unexamined assumption. This assumption is that only in treating something as an object and then distancing oneself in abstraction from it can it be known and understood. There is no question that there is value in this standpoint for us. But the assumptions that go beyond science about what can be understood by its methods are not a part of science. Science is not value free. Rather it is based on values. One of them is the value of objectivity that holds that intersubjective testing is a better grounds for belief than individual subjective experience. One's personal desires and beliefs are bracketed out of the scientific method. Without this, science would not be possible. The desire to win a Nobel Prize in science rightly has no place within science, though it certainly could be a motivating factor for a particular scientist to pursue her work.

So, scien***tistic*** thinking is not scien***tific*** thinking. *Scientistic thinking is akin to dogmatism in religion.* It involves the belief that the findings arrived at by "the scientific method," and only these findings, ought to be the standard of all truth. However, there is no single scientific method. The methods of the different sciences vary according to the respective domains of study. Even within some fields there is a high degree of conflict and nothing resembling unity of method, as for example, in the social sciences. This confusion is a symptom of the larger confusions about truth, belief, and knowledge we are addressing in this chapter.

Scientific thinking is a form of *literal discourse*. It can be broadly distinguished from the *mythopoetic discourse* of religion and some other forms of literature. Scientific thinking is thinking guided by rigorous methods of the various sciences aimed at a literal and conceptually clear explanation of various domains of experience. For example, in the domain of *biology* the object of investigation is the living thing, which is not true of geology, archeology, astrophysics, which study inorganic phenomena. The object of study greatly determines what the particular method of investigation will be. The purpose of a science is to unify a domain of investigation within an explanatory framework. A domain of investigation is a range of phenomena that can be more or less adequately distinguished, interpreted, and explained by the framework and its methods (Chapter Seven will provide a more detailed account of how methods in science typically operate). The attempt by the human sciences to model themselves on the natural sciences has led to what appear to be insurmountable problems of organizing, quantifying or even approaching the objects of social scientific investigation at all. *Psychology*, for example, unlike physics and biology, is not a unified science at all. There is no single "psychology." There are five or six competing approaches or paradigms, some so radically different from the others that they could hardly be called "the same field of inquiry." The need for an approach to the human sciences that is adequate to their domain of inquiry has been a major problem since the beginning of the modern social sciences in the late nineteenth century. The solution to this problem is now more appropriately

being sought in the field of hermeneutics (see Ch 4).

There is no universal “scientific method.” The methods of the various sciences do have a family resemblance and they all attempt to achieve a high degree of rigor and objectivity, but they do this quite differently. Mathematical exactitude is the standard of rigor essential to the *natural* sciences, such as physics, chemistry, and biology. But the biological sciences rely on concepts such as "function" that are never used in chemistry and physics. You would never say “the function of an electron…” or “the function of iron…” but you would say the function of the heart is to circulate blood…” In contrast, history and the other *human* sciences are altogether different in their standards of rigor where the object of study is the human being, a fundamentally interpreting being. The human sciences therefore require a hermeneutical or interpretative approach to rigor for arriving at and testing claims about what they study. Insistence on mathematical exactitude, instead of a hermeneutical approach in the human sciences, interferes with our ability to grasp what we are attempting to understand or completely misdirects our attention altogether. This can lead to the illusion of knowledge and understanding, which is far worse than ignorance. This is why mere consistency is useless without a proper interpretive frame. Such frames cannot be calculated or discovered. They are products of the deepest level of human creativity that make interpretation possible and in turn allow reason, logic, and mathematics to have a domain of awareness and consistency to operate within.

The interpretative frames of the sciences are very narrow in scope and that is what makes them so powerful. The natural sciences, such as physics, astronomy, chemistry, and to a lesser degree, the biological sciences, such as botany and zoology, typically deal with what can be rigorously mathematized. As we said, these sciences provide the most powerful explanation and prediction of natural phenomena ever devised by humans. If psychics could predict the future just half as often and half as accurately as scientists, there would be psychics in every major university and they would be widely used as consultants in business, industry, and the military. The mathematical approach of the natural sciences, on the other hand, is an extremely successful approach to explaining observable phenomena of the world. It can provide extremely reliable and crucial evidence, for example, about what happened relevant to a murder case or an airplane crash. But the sciences cannot provide any help whatsoever in saying what is good or bad, right or wrong, just or unjust, or what ought to be important. In fact, many assumptions of this sort must already be in place for science to operate, for example, that the knowledge science provides is valuable and that objectivity and standards for this are extremely important to us. These are value judgments outside the scope of science.

The sciences, when they are operating successfully, are self-correcting, open-ended inquiries that provide well-reasoned accounts of phenomena within their methodologies and domains of investigation. We ought to be persuaded by the sciences on the basis of well-reasonedness and an understanding of the power AND the limits of scientific investigation, and why and how the sciences work, not merely on the basis that the sciences produced the findings. Science is something to do, something to use, not something to “believe in.” Such belief is scientism. Likewise, religion is something we do, participate in, is an activity that reconnects us with our deepest yearnings, which are finally beyond what reason or any truth can grasp. Religion is also not something to “believe in.” That is merely dogmatism that does not go to the depths of the sacred. Neither science nor religion takes us all the way to this depth. Both are extremely powerful and very different interpretive approaches to our experience. They speak different languages for different purposes. Ultimately they both reflect our deep vulnerability and our need to understand and to situate ourselves in a “meaningful world.” But neither gives us something called “THE TRUTH.” This always impedes rather than engenders the openness with which we must ultimately face the mystery that there is meaning (an intelligible world) at all.

Facts and Theories in Science:

Facts in science, as in all other cases, are the product of well-reasoned arguments. The word **data** is preferred to the very messy word fact. Data (the selection of relevant observations), can only be gathered according to some guiding interpretive hypothesis under a well-established general theory. Scientific hypotheses are not tested by comparing them with the facts. They are necessary to generate the facts. But observations are necessary in order to generate hypotheses. There is a mutual and complex dependence here that common misunderstandings of science completely fail to grasp. For example, you often

hear the claim that "evolution is only a theory, not a fact." This kind of remark reveals a profound ignorance of science. It conceives "theory" as some sort of loose guessing. Science is *always* theoretical. It is no genuine criticism of evolutionary theory to call it a theory. Science never progresses beyond theories to finally become fact. The question is never one of "facts" versus "theories." In the sciences, it is always a matter of how well-confirmed a theory is. This means how well it organizes and makes sense of the facts and how well what it logically implies (what it predicts) turns out to be well-confirmed. A successful theory provides a general frame for successfully generating and consistently interpreting data to produce a meaningful context in which "facts" can be revealed and made sense of.

Standards of Truth in Science and Religion: Neither science nor religion are infallible, BUT for very different reasons. The standards of truth in each are quite different and arise from a distinguishable difference in the type of **language**, the **purpose and context** of each. Knowing this difference is crucial for avoiding unreasonable dogmatism about science or religion. A central problem in the use of any texts is the failure to use them within the linguistic and psychological context of the cultural practices from which they emerged and their intended purposes. Sacred texts speak to our deepest felt sense of connectedness to things, to our sense of the sublime, the power of or behind the universe, especially in relation to our felt sense of finitude, fallibility, and vulnerability. The sacred is finally an idea that only points to something that is felt and cannot finally be made conceptually clear. It is not an accident that the language of all sacred texts is highly poetical, metaphorical, and symbolic. It is the "language of the heart." It aims at what is most deeply felt, regardless what admixture of historical facts or legends are present. Science, philosophy, history, and most everyday language (for example, in business, the nightly news and in other pragmatic concerns), use *literal discourse* that aims at varying degrees of conceptual clarity, depending upon the purpose and the demands of the context.

To ignore this major difference in language type and use is to invite massive misunderstanding. To take symbolic and sacred discourse literally or to use poetical symbolical discourse in science, philosophy, history, or business is equally disastrous in the conclusions it can lead to. Literal discourse and religious/mythopoeic discourse have radically different standards of truth. And though we often freely mix these kinds of discourse, we are usually not misled, that is, until something of ultimate significance and importance is at issue. Then we seem completely unable to avoid the confusions. But we don't have to choose between these kinds of discourse as better or worse, nor be confused by them. We do need to see what is going on in each and the purposes and human practices out of which they emerge and in which they are intelligible. To denigrate either in favor of the other is a mistake. To confuse one for the other or not see how they are very often mixed is equally a mistake.

Within the range of literal discourse itself there are also many confusions. In the following section, we will discuss misuse of appeal to observation as a basis for truth claims, as well as confusions about theories, facts, and standards of truth in ordinary literal discourse and also in science.

E3. Appeal to Authority of Observation[23]: The myth that "seeing is believing" is rarely a good motto to follow. Most of what we claim to be true is not merely based on observation but on inference (reasoning), indirect knowledge, as well as a huge set of cultural assumptions and linguistic habit. And even what we do directly observe requires careful attention to what should count as an adequate context for interpreting what we have seen or heard. We are always coming in during the middle of the movie so to speak. But good reasoning can provide very reliable and adequate perspectives upon which to base our beliefs and actions. The following provides clarification of some typical erroneous views about observation.

a) "Believe whatever you see." This unreasonable view arises from the false distinction between facts taken as mere observations and theories discussed above. In addition, it ignores the fact that we are often mistaken in what we *think* we have seen. Further, observation claims often involve inferences to what was not actually observed. For example, if I claim you were at the

[23] See John Mullen, ***Hard Thinking***, Lanham, Maryland: Rowan & Littlefield, 1995, pp.76-83.

movies the other night, when in fact all I saw was your car parked there. I infer your presence from the observation of your car. **Theoretical** or **hypothetical** claims can be defined as claims that contain elements that have been inferred rather than directly experienced. To better understand how inferences play a major role in our observation claims we will make the following distinctions.

i) Pure experience claims: Claims about what is being directly experienced now, that contain no inferential elements. Examples: "I feel pain," "I am experiencing the color blue," "I am thinking of an elephant." I don't infer any of these from some other observation. They are true claims based solely on immediate experience. They are purely *subjective.* Their truth depends on the experience of the person or subject who is having the experience.

ii) Mixed theoretical claims: Claims that are partly inferred and partly based on direct experience. Examples: "Scooter Libby is guilty of a crime," "The car that left a dent in my fender was red," "Based on what I have seen so far, the new president of the college will do a good job."

iii) Purely theoretical claims: Claims that could not possibly be based on direct experience. Examples: "Humans evolved." "The sun will burn out," "The continents originated from a single land mass." Such claims can only be inferred because there is nothing directly experiential about them. No one has seen these things happen.

Armed with the above distinctions we can now say that ***observations claims*** are claims about what we are experiencing now or have experienced in the past that usually have theoretical or inferential elements, that is they can be of type i) and be merely subjective or of type ii) which is the vast majority of our claims and are mixed. It is important to see that theoretical claims, though sharply contrasted with direct experience claims, are usually implicit or explicit in observation claims.

So observation claims almost always contain theoretical elements. Depending on how precise we need to be and what is at stake in making observation claims, the degree of inferential elements we allow will vary. For example, in a murder trial it would be extremely important for a witness ***not*** to make inferences and only report what he or she actually saw. If the witness recognized the defendant's car from a distance and inferred that it was the defendant who was driving, then instead of saying "I saw the defendant get out of his car and strike the victim," it would be more correct to say I saw a man who resembled the defendant from a distance of about 100 yards get out of a car that was exactly the same make, color and model as the defendant's and strike the victim. He then sped away. I know it was the victim because I approached the crime scene and observed the victim's body from a distance of about 2 or 3 feet." This is very strong evidence against the defendant, but not foolproof. The prosecutor would have to produce other corroborating evidence, such as other witnesses, blood or hair traces from the defendant, etc. in order to finally make a strong ***inference*** that the hypothesis that the defendant committed the crime is true beyond a reasonable doubt.

Observation claims can now be defined as claims that do not contain <u>*questionable*</u> inferences, *given the context and requirements of the situation*. Useful observation claims, however, need the support of other observation claims to be believable, and, in addition, they must fit into a theoretical framework, without which they will make no sense. Observation claims presuppose inferential elements and a theoretical frame of reference. Our strongest way of linking observations claims is through inference and hypotheses. Theories are highly developed hypothetical ways of organizing our observations and explaining and testing relations between them. ***Theories and evidence are mutually implicative (they imply and require each other).*** Theories are inferred from evidence and require confirmation by further evidence. But evidence in turn can only count as evidence within some meaning framework to begin with that allows us to make such a theoretical or hypothetical claim. We investigate in order to see if our hypothesis (theory) can be confirmed or disconfirmed, such as in a court case, scientific investigation, or in everyday commonsense situations. The murder case just discussed would require a great deal more evidence to convict the defendant. That the defendant's car was at the scene, together with additional evidence of a police report, for example. But counter evidence, for example, that the defendant's car had been stolen several hours before the murder, would make a major difference in how we would reconstruct our hypothesis. Without sufficient evidence to support the hypothetical explanation of the murder (namely, the defendant did it), either the case would be dismissed for lack of evidence, or if the trial was completed, he would be found not guilty (whether he did it or not. Note: A verdict of *not guilty* in a court of law ***never*** means *innocent*. It just means there was reasonable doubt of guilt and the

prosecution could not sufficiently close the inference gap to get a guilty verdict.).

Subjective/Pure Experience Claims vs. Objective Claims: One could never be mistaken about what *seems* to be observed. That is a *subjective* claim and is a matter of certainty. For example, it would be absurd to say "I seem to be in pain," but not absurd to say that the murderer seemed to be about six feet tall. What ***seems to be*** and what ***is*** the case often do not coincide. To ***objectively*** verify a claim requires *corroboration,* the support of evidence other than our own conscious states. Subjective claims require no verification and could only be directly verified by the experience. So in conclusion, we can say that ***"seeing is believing"*** is not a good critical thinking dictum to follow. We are probably usually right about what we see, but such claims are *not foundational or self-evident* and therefore must depend upon well-reasonedness to be believed when they involve possibly questionable inferential elements and the situation requires it.

Objective claims about the world always involve inferential elements and therefore, uncertainty. So they require confirmation to establish their objectivity. A critical thinker will, therefore follow the following dictum instead:

> *"If an observation claim is the kind that can be used to support claims about how the world is, then it will contain theoretical elements and will not be self-evident. If an observation claim has the level of certainty that is characteristic of direct experience claims, then it cannot be used to support systematic claims about how the world is."*[24]

b) "*Believe Only Observation Claims."* Given what we have said above about the mutual dependence of observation and theory, the critical thinker will also reject this dictum. This view is unreasonable because most of what we reasonably believe, we have never directly observed. For example, I have never been to the moon, but I believe people have been there. I have never been to Antarctica, but I believe there is such a place. I have neither met nor observed the activities of Julius Caesar or Ben Franklin but I reasonably believe they lived and did much if not all of what is reported of them. This is purely inferential, but nonetheless highly confirmed and therefore reasonable to believe.

c) "Believe Only in What <u>Could</u> Be Observed." In light of what has just been said, you might be inclined to retreat to a dictum such as this one. One might argue that on this basis, belief in anything that could not be observed (for example, God) is unwarranted. However, if you denied the existence of God on these grounds you would also have to give up belief in anything else that could not be observed. For example, you would also have to give up your belief in your past since your past cannot be observed *directly.* But you are certainly warranted in inferring it from your knowledge of the world, from specific evidence, such as stories, photos, video recordings, and memory (note that videos and other such evidence is **not** direct evidence, though certainly powerful evidence). Here is another example of why not to accept this dictum: No one can see gravity. But it is a theoretical force that is highly reasonable to accept as an explanation of what we do observe. If we followed this dictum, we should not believe in our own past or in gravity, which is absurd.

Conclusion: Observation is a highly important element in deciding what to believe or disbelieve. But observation claims are often wrong and often correctly dismissed in favor of more theoretical considerations. Observations depend upon a linguistic and theoretical framework for their intelligibility and confirmation. Theories and observations are mutually dependent. Therefore this dictum, "Believe only in what <u>could</u> be observed," though less problematic than previous dictums we examined, is inadequate as a basis for belief.

E4. Appeal to the Authority of Experts: We rely on the expertise of others constantly: Contributors to encyclopedias, doctors, attorneys, scholars, teachers, ministers, and many others. However, believing something merely because an "expert" says so is dangerous in several ways. First, is this person really an expert? What makes someone an expert in a certain field? As always, whether an expert is believable, is a matter of how well-reasoned his or her arguments and explanations are. The title, degree, certification, or position, though these are important considerations, is not sufficient by themselves to warrant believing an expert (doctor, lawyer, teacher, priest, minister, parent, president...). So, assuming someone is in fact an expert, on what basis can we begin to give some credibility to what they claim? The only path open to us, if we do not have the background to closely examine their claims, is to be able to spot inconsistencies in what they say and

[24] John Mullen, ***Hard Thinking***, Lanham, Maryland: Rowan & Littlefield, 1995, pp.81.

inconsistencies with what the rest of the community of experts in their field say. For example, we should never merely believe something is true because a Nobel Prize winning scientist said it. Is the claim in his or her field of expertise? What do other equally expert scientists say? Is there general agreement in the scientific community about this yet? If not, why?

New scientific discoveries should not be taken too seriously too soon (such as the idea that the ancestors of all humans originated in Africa) and not misapplied (in this example, put to political propagandistic use). It is poor science and poor critical thinking to believe the findings of scientists before they have become well-supported. It is precisely the role of the scientific community to challenge and be skeptical about anything that goes against well-established scientific knowledge. If a new finding passes muster under these conditions, it has earned a very high level of credibility. This goes on long after the headlines in the newspaper have appeared and sometimes the theory does not pan out. So the misuse can lead to all sorts of negative consequences. Even if a great deal of testing has confirmed a hypothesis and the whole scientific community agrees (which is rare), this is not a basis for certainty, only reasonable belief until reason and evidence show otherwise.

A critical thinker will use the judgments of experts but never merely believe them uncritically. From the standpoint of sound reasoning, questions of ***who*** made a claim are almost always irrelevant to the truth of the claim. The question then becomes whether it can be supported with well-reasoned arguments. Using the advice of experts is often reasonable, but it is important to restrict the use of their advice to the area of their expertise and see how it compares with other experts. Never hesitate to reasonably challenge the judgment of an expert. Never trust an expert who is not willing to defend his or her claims or who uses only rhetoric rather than good reasoning to do so.

Fallacies of appeal to authority and majority: *The truth or well-reasonedness of a belief does not depend on **who** or **how many** people accept it. It depends on the reasoning and evidence they can use to support it.* What is merely **accepted** is not thereby **acceptable**. Believing something does not make it true. Judging whether something is true or not depends upon evidence and good reasoning.

The rhetorical question "Who's to say?" which often means "Anyone's opinion is as good as anyone else's", is ironical. It implies that the truth of a claim depends upon *who* says it, but that *no one* is in this position to speak with such authority. Therefore, anything goes. Anyone's opinion is as good as anyone else's. This is often expressed in "Who's to say?" meaning "I am justified in believing anything because there is no absolute truth." This is patently absurd. No one actually lives by this, nor should they. Yet without thinking this through many people implicitly believe it. The failure to establish any absolute truth in no way whatsoever warrants such relativism as we shall see.

II. The False Dichotomy of Absolutism & Relativism and the Fallibilist View of Truth

A. Relativism/Absolutism:

Absolutism is the idea that there must be some final, certain, unchanging truth, or standard for judging truth.

Relativism is the idea that truth is relative to individuals, groups, systems, cultures, nations, or languages, and that contradictory views can be equally true depending on these factors. (*Moral objectivism* and *moral relativism* are narrower terms within this broad division of absolutism and relativism that concern the basis for making moral truth claims).

Absolutism arises from the desire to defeat skepticism about our ability to know anything. Often the goal was to achieve some absolute certainty as the only way to defeat skepticism. Relativism is a form of skepticism and is mistakenly seen as contradictory to absolutism. As we shall see mistaken assumption that absolutism and relativism are contradictories and that one must be true, is the main problem with the distinction that makes it no longer tenable, despite most people still falsely attempting to choose between them.

The view that truth is something that can be objective or absolute is a very old assumption and there is every reason to now believe that this distinction is no longer viable. First, no one in the past 2500 years has arrived at anything we can call ***absolute*** truth. This by itself does not establish its untenability, just that it has not been shown so far. But much more devastating, is that the very idea of defining truth this way has been abandoned by most thinkers in the past century

because ironically it has been formally (logically, mathematically) proven that no such absolute truth is possible, even in mathematics! (See pp. 129-31 in the Appendix for an account of why there can be no absolute truth in math and logic or in anything else. Philosophical hermeneutics has also undermined the very idea of absolute truth and equally rejects relativism, as we shall see in Chapter 4.)

Relativism is a rejection of absolutism but is ironically itself a form of absolutism or universalism if stated as "All truth is relative." That claim itself is an absolutism universal claim, so it is self-refuting. Relativism cannot stand on its own. It is dependent as a view on the *rejection* of absolutism. If absolutism is untenable, then relativism loses its coherence. The fallacy committed by relativists is to conclude that the failure to establish any absolute truth then warrants the belief in relativism. However, the absolute/relative dichotomy is a *false dilemma*. Nothing is proved by the failure of the other. They are not genuine contradictories (where one must be true and the other false). Rather, they are merely contraries and both could be untenable or false, and in fact are. The somewhat obvious problem is that the issue was for a very long time mistakenly or inadequately cast in these terms to begin with. Truth is important for conscious, thinking, language-using beings to whom things matter. Truth does depend upon culture, language and individuals in the uncontroversial sense that if there were none of these, the question of truth (well-reasoned judgments) would not be an issue at all. The question is rather, "Are these (culture, language and individuals) the only determinants of truth/well-reasonedness?" The answer to that is definitely ***no***. There are standards for judging truth without recourse to either absolutism or relativism.

B. Some absurdities of <u>individual</u> relativism
(the idea that truth is relative to individuals):

If truth is merely dependent on the individual, is merely subjective as reflected in statements such as "It may not be true for you, but it's true for me," then

1. It would be impossible for anyone to ever make a mistake about anything, you could never be wrong,
2. Whatever I believe would automatically be true,
3. By changing my feelings, I change what is moral
4. It would be impossible to disagree with anyone about the morality of an action, since any claims are only about my own feeling and thought
5. Moral claims would not be moral claims at all but only claims about a person's feelings 6. There would be no reason to support holding any of your beliefs at all, since whatever you believe is automatically true
7. There could be no truth before you were born or after you die
8. Communication between people would be not just sometimes difficult, but utterly impossible
9. Knowledge as a process of public verification that we depend upon constantly would be impossible.

The moral is: Nothing is true or false simply because *someone* believes it is. The phrase "true for you" adds nothing to a claim. It just means someone holds that view, not that it is true. The question should always be: Does the evidence and reasoning support it?

C. Some flaws and absurdities of <u>cultural</u> <u>relativism</u>
(truth is dependent on groups, cultures or subcultures).

1. Ethical cultural relativism is often proposed and supported in order to combat the evils of ethnocentrism. But condemning the worst abuses of ethnocentrism and being tolerant of others does not require being a relativist. The assumption is that relativism is justified by the attitude of tolerance it is supposed to promote. But tolerance is not dependent upon relativism and is not uncommonly lacking in proponents of relativism. Therefore, arguments for tolerance do not justify relativism. If one realizes that it is not necessary to be either a relativist or an absolutist in order to argue effectively for tolerance, the argument from tolerance loses all force. Furthermore, what is sometimes confusedly called ethnocentrism, are reasonable claims about the advantages and superiority of one group or culture over another, for example, better hygiene of a clean sewage system over a disease-ridden open sewage river as a source of drinking water.
2. The relativist claim that every culture has its own truth is itself a **universal** (not a relative) claim that could not possibly be true if cultural relativism were true. It is self-contradictory.
3. The mere fact that a practice is *accepted* in a culture does not mean that it is *acceptable*. We

do not merely appeal to what is or has been done to decide what *should* be done.

4. Actual implementation of cultural relativism would give the power group of any society an automatic advantage and any "improvement" in a culture could be justifiably suppressed. If moral cultural relativism were correct, then the views of Jesus, Socrates, Buddha, Martin Luther King and many others would count as wrong to begin with, since they often conflicted with the beliefs of their societies. Reformers would be moral criminals by definition. This is absurd and ironic because relativists often think of themselves as reformers. Cultural relativism is conservative in the worst extreme.

5. Ethical cultural relativism fails because societies often have multiple conflicting standards as do individuals. It is impossible that any individual is a member of only one homogenous group. We are therefore always able to be identified with many groups and subgroups which often have conflicting points of view. For example, someone could be a black, female, Latin American, homosexual, Christian, elderly golfer. It is highly unlikely that these various "groups" coalesce and form a consensus in most respects. So to assume that we cannot judge from outside any one of these groups means that we cannot even judge ourselves or other members within some particular group. However, it is obvious that we can and do. Furthermore, we can give good arguments why whatever a society or a group does or believes to be right does not make it right.

6. Cultural relativism is also internally self-contradictory if the relativist treats scientific claims as non relativistic and only value claims as relativistic, since both can be equally subjected to standards of good reason. On the other hand, if a relativist rejects science as a basis for making objectively well-reasoned claims about the world which are true for everyone, (for example, the law of gravity), then scientific truth would be true only for scientists (which is absurd). Relativism would have to reject both theoretical and observation statements as the basis of truth and instead accept virtually any view as acceptable depending on the mere fact that it is accepted by some group, for example, astrology or psychic abilities which are not well-supported by observation.

7. Cultural relativism also would have to universally reject subjectivism as the basis of truth, which is otherwise reasonable, but for a relativist is self-contradictory because it is a universal, not a relative claim. If a group or culture believes that truth depends upon the individual, not the group, the relativist would be forced to both accept and reject this view.

Conclusion: Nothing is true or false simply because some *group* believes it is. The phrase "true for _____" (fill in the blank with any national, ethnic, racial, political, group) adds nothing to a claim. It just means some group holds that view, not that it is true. The question is always: Does evidence and reasoning support it over alternative views?

Based on what we have seen, relativism is an unnecessary response to failed absolutism that even implicitly assumes absolutism! The implied unsound argument for relativism goes as follows:

Premise 1: Truth is something that depends upon a foundation, a foundational text, a truth teller. (Assumed absolutist premise)

Premise 2: There is no such foundation, text, or truth teller. (Also an absolutist claim)

Conclusion: Relativism is true

The second premise is correct, but not on the basis of failed absolutism, but because the dichotomy between absolute and relative is not fundamental or necessary. The first premise is false, since the fallibilist approach to truth that avoids both relativism and absolutism is quite a viable and robust conception of truth, so the argument fails. We often use the words "relative" and "absolute" in practical ways without harm, but they add nothing to a discussion of the nature of truth. Instead, the use of these terms with regard to serious considerations of the nature of truth has been extremely misleading, has caused great destruction in human history, and therefore ought to be abandoned.

III. An Alternative to Absolutism and Relativism:

Well-Reasonedness and The Fallibilist View of Truth[25]

Well-reasonedness is a **logical** relationship between a) the best evidence and b) what that evidence warrants us in believing. A well-reasoned argument should at least 1) clearly state a final conclusion 2) develop premises that are true and that are logically relevant to the conclusion, 3) avoid fallacies of reasoning, and 4) neutralize any serious counter arguments to the final conclusion, or to any important premises or intermediate conclusions.

Determining what is *logical* depends on recognizable rules of consistency. However, the *truth* of a claim is typically taken as a *relation between a statement and what it describes* in the world. Aristotle's famous definition of truth: To say of what is, that it is and to say of what is not, that it is not, has stood the test of time. But how we know what is and what is not and how we know when what we say does correspond with what is and is not, is a continuing challenge for philosophy. Science and religion cannot answer such questions, but rather already presuppose answers to them.

We would like to say that *Truth* is the property of a claim or statement when it adequately describes *the world*, which is fine. But the idea that "the world" means something completely independent of language, meaning and consciousness to which our statements can nonetheless correspond, does not make sense on its face. We are always already in a meaningful context of a meaningful world, a context of being conscious language users.

So we can say that "Truth" is what we aim at, since we must presuppose it to make any sense of moving toward it. But our only approach to truth, (contrary to absolutism, relativism, and traditional appeals to authority of science, religion, or observation), is well-reasonedness.

Truth is what well-resonedness aims at, but our only approach to truth is through well-reasoned belief. Understanding then is an on-going achievement arrived at by an open-ended process of skilful interpretation and judgment.

The fallibilist view of truth asserts that the notion of truth is best understood as our best reasoning based on the best and most complete evidence we have at a given time in our attempt to know and understand ourselves and the world.

If we redefine truth as ***insight*** or understanding that is well-reasoned (and well-informed), then clearly some opinions are better than others. Individuals and whole groups can get things wrong even in their own terms, their own beliefs, language, and way of life. Well-reasoned positions that are highly warranted and we take as true are nonetheless open to revision when new evidence and better arguments are forthcoming. The true/false distinction works just fine under these conditions, but it is not the old confused cluster of ideas about truth and facts that arose from our desire for certainty together with our misunderstanding of what language and reason are and can do. Nothing has been lost. The fear that without an absolute truth nothing has any stability and therefore "anything goes" is unwarranted. It is never the case that anything goes. The challenge is always reasonably judging what deserves our belief. We can and do achieve this. Unreasoned and unreasonable appeals to absolutism or relativism only impede this achievement

The other sense of truth discussed earlier that is usually confused with *importance* is entirely another matter. The conception of truth put forward in this section as fallibilist and well-reasonedness should not be confused with importance and our sense of the sacred, which inquiry can address but never capture in language. Well-reasonedness in that context only operates in our favor if we reasonably judge that such issues cannot be approached evidentially or logically. We should keep the two conceptually distinct. The first sense of truth is linguistic, evidential, logical, and rhetorical. The other sense our need and our attempt to express the mystery of importance, vulnerability, that things matter at all, can only be pointed to in language, but is finally about something non-conceptual and non linguistic, yet most deeply significant.

[25] See the article "Truthlikeness" by Graham Oddie at http://plato.stanford.edu/truthlikeness/

IV. Critical Thinking About Values

A. Values and Value Judgments

Unlike rocks, trees, or houses, values are not immediate to the senses. But just as much as rocks and trees exist in the universe, so do values. Values, like beliefs, dispositions, and wishes do not appeal to the senses directly. We are either intimately aware of them as characteristic of our own consciousness or they are inferred from the behavior and language of others. Values, beliefs, and, attitudes are intimately associated with feelings and feelings are always subjective. This is a condition of consciousness. But feelings can be judged appropriate or inappropriate, fair or unfair, based on mistakes or not. How do we decide this? And how do we decide whether something has more or less value, goodness, importance, is more or less fair or just? Getting a value judgment wrong is just as much a fact as getting a perceptual judgment wrong. That somebody misunderstands something is just as much a fact as that they raised their hand. The way we determine whether a value judgment is a good one or not or that an interpretation is better or worse requires an overt set of criteria in addition to standards for determining perceptual facts. A claim that is purely about a perceptual fact is not a claim that something is good or bad, better or worse (though it always presupposes values and a point of view).

Values are the standards or criteria by which we judge things to be good, worthy, and important. They are often expressed by giving examples of the things, actions, and conditions we value. From these examples of what is valued, one might infer some criteria or standard of what is valuable. What we value can and does change with more information and experience and so what we find valuable changes. That, of course is a psychological and historical question about what one in fact believes to be valuable at a given time under given conditions. And here, of course, there is the danger of the famous fallacy that what is desirable and hence, what ***should*** be desired is derivable from what is ***in fact*** desired. This is considered not to be a fallacy by some. But it seems quite sensible to say that people often desire things that are not desirable. The drug addict desires more drugs. But it does not follow that more drugs that will ruin her life is desirable. The term **desirable** here means valuable, whereas, the term **desired** refers to a feeling. Desire is a ***feeling*****.** Whether something is desirable or not is not a feeling, but a ***judgment.*** We can and do apply critical criteria for judging whether what is desired is desirable. This would imply that there is really a major difference between what is *valued* and what is *valuable*, what is desired and what is desirable. If in fact this distinction is justifiable, to what can we appeal for making it?

If one were to claim that in order for the distinction to hold, there would have to be some objective and independent "outside" criteria by which we could judge what is valued or desired in order to see if it is desirable or valuable, then it would seem that there must also be some criterion or set of criteria by which this itself decision can be made and so on. This problem of justification seems to lead either to self-referential dilemma or to a regress of criteria. There are famous problems in logic about these kinds of issues that are well worth becoming familiar with (see appendix A). However, if we give up the unnecessary idea that there must be some foundation or final basis in order for anything to be reasonable at all, we can use the fallibilist approach in which the appeal is to good reasoning and information that warrants holding to our most well-reasoned beliefs, but always leaving them open to revision on the basis of new evidence and better reasoning.

B. Facts and Values

There are many severe confusions about "facts" and "values" that lead people to have obviously false beliefs. Examples of these are: "Values are only opinions, so it makes no sense to argue about them." "Since values are subjective, one person is not really in a position to challenge anyone else's values." "Since one person's tastes may very well be different from another's, and since people have a right to their own tastes, it is wrong to criticize the values judgments of another." "Since what's right and wrong will depend upon the society, who am I to claim that a practice that is widespread in some other society is wrong?" "Since each of us gets his or her values from society, if I criticize another society's practice, then I'm just imposing my society's values onto another society." To clear up such confusions it must first be understood that arguing about facts is not necessarily easier than arguing about values. Furthermore, it is perfectly possible to be objective in reasoning about value

claims. Reasoning about value issues, if it is done with care, can be every bit as credible as the best scientific reasoning. There is no good reason to denigrate the ability of reasoning to come to objective and well-reasoned conclusions on issue of values.

C. Value Claims Versus Empirical/Factual Claims:

An ***empirical*** claim is a statement that claims that something is true by appeal to evidence of the senses. Empirical claims such as "This is an oak tree" or "My dog is black" depend upon observation (as well as language and meaning) for their verification. The truth of ***non empirical*** claims such as "2+2=4" or "square circles are impossible" is based on the meaning of the terms used. A ***value claim*** is any claim about how it would be good, bad, better, or worse for something to be, in the past, present, or the future, based on some set of criteria. It is not an observation claim. It is a judgment of the worth, value, goodness, rightness of something that may require observation in order to make the judgment but cannot appeal to observation for the truth of the claim. No value judgment can be made without adequate criteria. However, no adequate criteria for making value judgments can be developed without a definable human practice within which the criteria function and make sense. So to talk about truth and rightness independently of this is to invite irrelevant abstractness and mindless use of moral or other value formulas which will often produce just the reverse of well-reasonedness and justice.

No organized human practice, including science, can take place except within a set of ***normative rules*** or value standards of better/worse, good/bad that justify specific value judgments in individual cases. Well-reasoned value judgments are *independent of individual tastes*. Though matters of individual taste are subjective, it does not follow that values are therefore merely subjective. For example, the truth of the claim, "It is wrong to torture human infants purely for fun" does not depend upon whether the judger enjoys or does not enjoy it. To evaluate something means to grade or rate it according to some ***criteria***. Such criteria allow us to connect facts to our value judgments. These criteria can be distilled from the human practices that call forth such criteria and make judgments possible. These criteria themselves are not just a given (as relativists would have to accept), but can also be debated based upon well-reasoned arguments for retaining or altering them.

Value claims are not just a matter of how you **feel**. It is never simply true that you have a right to your feelings whatever they are. Would it make sense to believe that you are entitled to your feelings (such as hatred, jealously, envy, disgust, respect, admiration or love) when those feelings are based upon false or irrational beliefs? For example, would it be right to be angry with someone for stealing your wallet, when in fact they did not and if you had used a little judgment you would have recognized this? Would it be appropriate to hate someone, simply because they did not say hello to you? Knowledge of a feeling is direct, immediate and personal, but we can be wrong in how we characterize, justify or explain that feeling. Subjective states are not defined by private mental states alone but by a combination of inner states and public context and meaning. We can be wrong and confused about our feelings, for example what caused them, how we use language to talk about them, and whether they are appropriate or even based on an actual state of affairs at all. Judgments about feelings can be well-reasoned. They can be judged unfair, foolish, irrational, excessive, etc.. Other people are often in a position to know or judge feelings better than the person having them, for example, an understanding parent with a child, or a good therapist, priest, teacher, or minister with someone they are counseling.

The ability to prove or disprove a claim has no relevance to whether or not it is a value claim. It is certainly possible to be objective about value claims. It would make no sense at all to have trial courts, judges, and juries or even laws for that matter if we did not presuppose our ability to be objective enough about determining facts and making value judgments based on the facts. We also have good reason to believe that we have the ability and enough objectivity to argue effectively about values, to decide that some value judgments are better than others and to decide whether our values are justifiable and properly reflected in the law. Whether we do a good job at this or not is not an issue of whether reasoning itself is valuable or not, but is rather a question of how committed we are to our supposed values and to making the best decisions we are capable of making about them and based on them.

Generally, value claims are no more difficult to argue than empirical (observational) claims: For example, "Joe Montana was among

the greatest quarterbacks in football" or "Michael Jordan is among the greatest basketball players" or "having something pleasant to eat is more pleasant than being drawn and quartered," are value judgment that are uncontroversial. They are just as easy to make as empirical claims such as "The Declaration of Independence includes the statement that all people have a right to "life, liberty and the pursuit of happiness," or "Mount Everest is the highest mountain in the world." Statements such as "Powell would have made a better president than either Clinton or Dole" or "Atheists should be excluded from citizenship because they cannot be trusted" (John Locke), though extremely controversial, are also amenable to reasoning. A ***value*** judgment such as "Albert Schweitzer was a more moral person than Joseph Stalin" is easy to make because the criteria and evidence are abundantly clear to support our judgments. In contrast, some ***empirical factual*** claims, such as "There are no more than 98 trillion trillion stars in the existing universe" or "there are exactly 43,876,945 grains of sand in this barrel of sand" would be extremely difficult, if not impossible to verify.

So, whether a claim is an empirical/factual claim or a value claim has little to do with whether it is easy or difficult to argue or arguable at all. The claim that we can't argue values but only facts is utterly false.

Almost all ***value*** judgments imply empirical judgments. For example, "Joe Montana was among the greatest quarterbacks in football" implies that "Joe Montana played football," which is not a value claim, but an empirical claim. Furthermore, the criteria for deciding whether a value claim is reasonable or not, directs us to empirical claims such as "Montana completed a greater percentage of passes than all but two other quarterbacks." Thus, value claims typically are explicitly or implicitly ***mixtures*** of empirical and value claims. On the other hand, it is quite common to find ***purely*** empirical claims, such as "The planets travel in elliptical orbits" or "George W. Bush is president of the United States." These are purely ***descriptive*** claims that offer no judgment whether this is good or bad. They are claims only about what ***is***. Value judgments are ***prescriptive*** and deal with what is better or worse and what ***ought*** to be.

There are two kinds of problems that make value judgments difficult. One is empirical; the other has to do with criteria for making value judgments. In the first case, for example, whether a fetus in the first trimester of pregnancy feels pain during an abortion is a difficult and unresolved ***empirical*** question that could have very significant implications in value judgments about abortion. In the second case, for example, whether socialism or capitalism is a more fair economic system is unresolved because there is controversy about what ***criteria*** an economic system should fulfill and what priorities these criteria should reflect.

Empirical facts and values claims are open to revision on the basis of new information and better reasoning, including the criteria for value judgments. The truth of both value claims and empirical claims is best understood as an appeal to what ***is well-reasoned***. What we take to be true, though justifiable at a given time, is open to revision and is neither absolute and final, nor merely relative to what some particular individual or group believes. Believing something does not make it true. It depends upon well-reasoned responses to the best information we have. Multiple points of view could be equally well-reasoned or could have aspects that are reasonably supportable. But new circumstances, information and better reasoning bring modification. The standards for this are themselves subject to reasoning. There is nothing else than reasonableness that we can appeal to that does not present the danger of dogmatism or appeal to raw power. Sheer might, unfortunately, does often prevail. But might does not make right. One definition of justice is when right (well-reasonedness in value judgments) is supported by might, i.e., enforced (for example, by law).

There is a common misconception that sciences just deal with facts and are "value free." The sciences are not merely a matter of facts. As we have seen, a "fact" is a claim that is the conclusion of a well-reasoned argument. The word "fact" does not refer to something that is a given, something that "is" independently of what we experience which then determines our experience. Experience itself is a complex linguistic and social construction, if not a much more complex issue than this. The very way we think is conditioned by language and categories of thought which presuppose some fixity. But this fixity is not something absolute. There is a "world" (itself a construct), but it is always interpreted via our thought, language, needs and wants. So, we cannot simply appeal to facts, as if they merely speak for themselves, are simply there. Determining what the facts are is itself a matter of reasoning and language within some well-defined purposeful human practice.

There is nothing that we can uniformly call science. There are sciences. They have a family resemblance but are distinct. There is nothing that unifies them all. Each is determined largely by the

objects it studies, its domain of inquiry. So the assumption that "science" has an identity in terms of which we can appeal to some foundation for truth is incoherent. One of the main characteristics of the various sciences, however, is the overriding value given to "objectivity" which means intersubjective confirmation standards and procedures as a basis for verifiability. The word "prove" is a metaphor when used in regard to science. Science involves confirmation of hypotheses on the basis of mathematized observation or data. Scientific claims cannot be "proven" any more than value claims. There are some general standards of what counts as good science. These are criteria by which we make value judgments about science. These criteria themselves are not products of scientific thinking but are value judgments that make science possible at all.

D. How To Reason About Values:

1. Statements of value, evaluative claims, are judgments about what is good, bad, better, or worse. To evaluate something is to apply a set of criteria to it and, on the basis of those criteria, give it a rating. The rating may be expressed in terms of adjectives, such as "superior," "very good," "good," "fair," "poor," etc.; in letters such as A, B, C, etc.; or in numbers such as, 1st, 2nd, 3rd, etc.. When the rating is in numbers, then the numbers constitute a scale.

Once you specify what the criteria are for making a value judgment, then it is often rather easy to justifiably make them. For example, if I claim that Michael Jordan was the best basketball player in NBA history and I specify that the criteria in order of importance are 1) ability to score points, 2) ability to jump and rebound 3) Ability to assist other players, 4) ability as a team leader to arouses team spirit, etc., then there are objective grounds based on evidence that he was the best basketball player, or at least certainly one of the top five.

Let's use a more elaborate example: If I claim that Thomas Jefferson was the best statesperson in American history and specify the criteria as 1. Did more to establish and promote a solid basis for American life (He wrote the Declaration of Independence, considered one of the greatest documents in world history, he urged the writing of a Bill of Rights, etc.)
2. Served in a selfless manner (Jefferson received no salary, he did not pursue and did not like being a statesman/politician but considered it his duty when called upon) 3. Served in many capacities (Besides President, he was Secretary of State, Vice President, Governor of Virginia, Ambassador to France, 4. Created a more democratic image of the presidency by ending the practice of bowing to the president, using the handshake instead. 5. Did more to help America grow and prosper (He doubled the size of the United States with the Louisiana Purchase and did a great deal to help and promote farmers and settlers). 6. Promoted democracy (As opposed to Hamilton and others who favored a powerful federal government run by a landed elite aristocracy, Jefferson sought a minimal federal government that was primarily engaged in foreign affairs and promoted much greater participation in government by the common people such as small farmers) 7. Dedicated his life to personal excellence so he could better serve when called upon (was the most well-educated President in our history) 8. Promoted the idea of government by an informed and capable citizenry (He founded the University of Virginia 9. Was a decent, fair, and moral human being (Many details of Jefferson's life can be brought to bear here.)

As long as you agree with my criteria, you will find it difficult to deny that Jefferson was one of the greatest Presidents and statespersons in our history. But you may object that I have stacked the deck here, making my criteria fit Jefferson, rather than the other way round. I have left out highly debatable issues about Jefferson, for example, his ownership of slaves and his apparent hypocrisy over this issue. Whether and how much this issue should bear on the question of his ability and accomplishments as a statesman are arguable. It would be quite reasonable to debate the criteria for deciding what is more or less relevant. These too would require good reasons. The issue of what makes a great statesperson, or better, what makes a great statesperson for the United States of America, is an ongoing issue that needs to be debated and clarified repeatedly. One could argue that Jefferson was the greatest or one of the greatest, all things considered, but not necessarily the greatest in every respect and for all purposes. Perhaps he would not have handled the Civil War as well as Lincoln or the Great Depression as well as Roosevelt. But this last issue could never be definitively decided. There is little question that if we start with the easy comparisons, say with George W. Bush, his father, or Gerald Ford, who no one would argue were as great as Jefferson, and then work toward the more difficult, comparisons, such as with Lincoln, we could certainly arrive at a pretty good judgment about the relative worth or value of Jefferson as a statesperson and president.

If you radically changed the criteria for a good basketball player, Michael Jordan would likewise fail to make even the top ten. But what makes a good basketball player or a good

statesperson will depend upon many things about what we take the purpose of these to be and what counts as being good. Just because this is not set in stone to begin with does not mean we cannot establish quite reasonable criteria and determine why others are not good ones.

In matters of **taste**, we must distinguish *aesthetic experience* from *aesthetic judgment*. If I like Johnny Cash better than any other singer who has ever lived, this is merely a reflection of how good his music makes me feel. It is a claim about my *experience*. **But** if I claim that he is the best musician or singer who has ever lived, we have many quite reasonable criteria to appeal to that would make this claim absurd. The common problem we face is distinguishing our feelings from objective or intersubjective grounds for judging things. There is a basic difference between a subjective aesthetic response or *experience* and an aesthetic *judgment*. No one can argue with you over what you find pleasing. They can argue with you over whether something is good or not, better or worse according to some reasonable standards. These standards themselves are, of course, open to argument and to revision. But it is not the case that anything goes in aesthetic judgments any more than it is in ethical judgments. Furthermore, our own tastes change. If we objectified them on the basis of our own preferences at any point in our life, then any other taste we would have subsequently that is different would be automatically wrong if it conflicted with these earlier tastes. Tastes are subjective, but the object, person, performance, etc., itself can be judged and reasonably argued about when we appeal to some reasonable criteria for judging them.

2. Guidelines for Evaluation[26]

In every evaluation there must be

a) something to evaluate

b) a set of criteria for this

c) a language that is adequate to state the outcome of the evaluation

In order to clearly evaluate something, each of these three items must be clarified with the precision that is necessary given the demands of the evaluation situation. There a considerable difference between evaluating which restaurant to eat at, which refrigerator to buy, which house to buy and where to live, what job to take, which patient gets a scarce life saving resource, whether and how much of a military response is appropriate to the actions of a foreign country.

Given that we want to be clear about our evaluation, we should at least do the following.

a. Clarify the goal of the evaluation. The goal of the evaluation involves a very general description of what is to be evaluated, for what purpose, and for whose benefit. Thus, if we are evaluating restaurants, the goal would state whether we wanted to eat a certain kind or quality of cuisine for our own satisfaction or to please and entertain someone, accomplish something else at the same time, etc.. The question is what will maximize the benefit of the person or persons involved. If we are evaluating candidates for a job, we would state that we wanted a copyeditor for a scientifically oriented publisher, who will maximize the benefit of the publisher. If we are evaluating sites for a nuclear waste disposal, we would state that we want a site for the disposal of waste from nuclear power and weapons manufacturing plants that will maximize the benefit of the country. A well-stated goal, even though very general, should contain "excluders" that will narrow down considerably the field of options. Thus, for example, by mentioning in our criteria for choosing a restaurant, that we want intimacy and privacy, the options are limited to far fewer restaurants to be considered.

b. Subdivide the goals into objectives. In this step we break down the very general goal into logically separate components. Thus, for example, the goal of the nuclear waste site selection might have as component objectives: human health safety, environmental safety, accessibility by road and rail, and lack of political opposition. These objectives should, then, be prioritized.

c. Find measures of the degree of satisfaction of the goals. This means to find measurable characteristics of any potential option that will determine its level of satisfaction of each objective. For example, the satisfaction of the objective of human health safety may be in terms of the distance of some site from major population areas. Environmental safety could be measured by the porousness of the earth at the site, the distance from rivers, or the distance from agricultural sites. For any objective that has more than one measure of satisfaction, these measures should be prioritized.

d. Determine the evaluation language. The assumption is that the criteria can be fulfilled to a greater or lesser degree. A system of reporting needs to be determined that will state the degree to which a candidate fulfills the criteria. It may be just a pass/fail system, such as adequate/inadequate. For example, if there are four criteria prioritized as 1st, 2nd, 3rd, and 4th, we could have the rule that any candidate is adequate that fulfills either the first or two of the three others; otherwise it is inadequate. Or we could have a

[26]This section is from John Mullen, ***Hard Thinking,*** Rowman & Littlefield, 1995, pp.112-114.

"very good," "good," "fair," and "poor" system such as that used by *Consumer Reports* to evaluate toasters. Or there could be a completely numerical system where each item being evaluated receives a numerically reported evaluation, as is done with the grade point averages in colleges, or the numbers that evaluate competitive platform divers.

e. Apply the evaluation system. Depending upon how clearly the evaluation system is worked out, the application step will either be routine and mechanical, or require real expertise. While it may seem odd to employ a system such as this in ethical evaluations, this is exactly what is done by human rights groups, such as Amnesty International, that evaluate abuses occurring worldwide. In some cases foreign aid and most favored nation trade status depends upon the outcomes of just such evaluation processes. The creation of an evaluation system is a very complicated matter when a lot is at stake, and quite a simple matter when the issues are trivial. But the critical thinker is one who has taken the time to create such systems for the evaluations that must be made. As a result, the critical thinker is able to provide a clear rationale for his or her evaluations, including his or her choices. Compare this to the uncritically-minded person who has done none of this, and who is forced as a result to emit some antireason cliché about value judgments being just matters of taste.

Exercise: Select an example to process through this procedure.

V. Necessary vs. Contingent Truths

This is an issue that involves the question of meaning and truth but also structure or form.

A) Necessary Truths: Truths that are "self-evident and whose denial or contradictory is impossible.

1) Some necessary truths are so by virtue of their meanings alone. They are **true by definition**. Examples are:

a. All sisters are females.
b. There are no square circles.
c. All bachelors are unmarried.

These truths are true by virtue of an inherent logical relatedness of the meanings of the terms involved. If you understand the meaning of circle, you know it CANNOT be a square.

2) Other necessary truths are such due to the structure or form of the statements and their denial would be logically impossible. These are called **tautologies**:

d. It is not the case that it is both raining and not raining (at the same place & time)
e. 2+2=4
f. If A=B and B=C, then A=C

These are necessary truths by virtue of the grammatical or logical structure used. If you know the function of + and = then e and f above CANNOT be false.

B) Contingent truths are those that are not necessary but instead are evidential and probabilistic. They have a degree of likelihood depending on evidence. Therefore, their contradictory is possible.

Examples of *contingent truths*:

1. The cow jumped over the moon
2. Humans have walked on the moon.
3. No one can jump over Mt. Everest in one leap.
4. Barack Obama is President of the United States
5. Nothing travels faster than the speed of light.
6. Space is curved in the vicinity of mass.
7. Humans evolved.
8. The sun will burn out (become a white dwarf star) in about 4 billion years.

It is both false and useless to say "anything is possible" (more on this in Chapter 7: Fallacies). It is *false* because A) the contradictory of the six examples of necessary truths above are **not** possible. B) It is also useless to say "anything is possible" because it tells us nothing about which contingent truths are most probable and most believable. It leaves us with nothing. If such a statement is made just for rhetorical effect, about ones own attitude, then no problem. But if one believes this statement says something about the world, then it is just false and misleading.

The necessary and contingent distinction is central in understanding how to determine the truth of such statements by the difference in how their meaning operates and produces either necessity or some level of probability.

Exercise:

A) How would you classify the following statement? "We hold these truths to be self-evident, that all men are created equal…"

B) Create or pick out five statements that are necessary truths and five that are contingent truths and explain the difference in what makes them true.

Practice Exam Questions for Chapters 1 and 2

1. Why is it not true that each of us is entitled to our own opinion? What justifies or entitles us to an opinion and to what extent? What should we appeal to when opinions conflict and why?

2. What is ethical relativism, both individual and group? Why is ethical relativism an attractive but nonetheless untenable view?

3. What is moral absolutism? What are the major problems this it? What alternative is there to ethical relativism and ethical absolutism?

4. Explain the difference between a practice being *acceptable* versus merely *accepted.*

5. Critique "Who's to say?"

Matching:

1. argument stoppers
2. reason substitute
3. fanatical closure
4. relativism:
5. subjectivism
6. misplaced tolerance
7. naive pragmatism
8. epistemic value
9. fact
10. mere opinion
11. mastered irony
12. Cognitive Dissonance
13. Belief
14. well-reasonedness
15. education
16. Critical Thinking
17. Reasoning
18. Logic
19. The three laws of thought:
20. Truth
21. Evidence
22. consistency
23. Concepts
24. Claim
26. argumentation
27. Argument
28. Premise
29. Conclusion
30. form of an argument
31. content of an argument
33. Necessary Conditions:
34. Sufficient conditions

a. Any claim that has been supported by an argument that is well-reasoned
b. ways of arriving at belief without reasoning
c. Ability to set aside your own beliefs and biases in order to judge something reasonably and fairly
d. Fear of subjecting one's beliefs to question
e. truth depends upon what a person, group or culture believes
f. truth is what I believe
g. Accepting relativism because you wish to be tolerant, being tolerant toward poor reasoning
h. truth value or power of evidence in favor of a belief
i. whatever helps achieve the goal, regardless of its truth
j. believing something without having reasons to support it
k. ways of avoiding reasoning
l. the experience we may have when our important or core beliefs come into conflict with the facts and *both cannot be true at the same time*.
m. to choose to be committed to it as true.
n. logical relationship between our best evidence and what that evidence warrants us in believing.
o. property of a claim or statement when it adequately describes the world.
p. Process of bringing forth our basic human capacities
q. skilled in judging
r. psychological process which aims at establishing truth regarding what is or ought to be by following rules of logic.
s. rules that tell us when reasoning has been successful. The study of the structure and principles of sound reasoning.
t. identity, non contradiction, excluded middle
u. Most reasonable well-supported beliefs.
v. Something present to the senses that can be used to support claims.
w. Meanings that group things according to their similarities or shared properties
x. in accord with a recognizable pattern
y. a statement or proposition that asserts something that can be true or false.
z. unsupported belief.
aa. process of making logical inferences from statements to other statements.
bb. A group of two or more statements in which one or more can be used to support belief in another or others.
cc. statement(s) supposed to have some credibility that are intended to give logical support to a conclusion.
dd. statement(s) in an argument that receives the logical support thereby increasing its believability.
ee. What an argument is about.
ff. structure or logic of an argument that can be evaluated independently of the truth value of the content
gg. without which something could not be the case.
hh. conditions that are enough for something.

T/F-Multiple Choice

Directions: Select the best answer from those available

1. Which of these are *meta level* issues? a) Belief that audience approval and/or what the majority wants or believes is the standard for what is correct b) Belief that it is unfair to criticize someone's view c) Belief that there are no right answers d) all are e) none are

2. Which of these are *meta level* issues? a) lack of clarity about the issue being argued and use of vague and sloppy language b) emotively loaded language c) committing fallacies (errors in reasoning) d) all are e) none are

3. Which of a through c is *false* regarding the "meta" versus the "performance" level of reasoning. a) The significance of the meta versus performance level distinction is that beliefs and attitudes have a great impact on how well we reason b) This distinction indicates that information and logic alone are not enough to do good critical thinking c) The performance level refers to one's attitudes and beliefs about reasoning d) all these are true e) none of these are true

4. Which of these is ***false***? a) Cognitive dissonance is the discomfort we experience when we realize that our beliefs are inconsistent with the facts or other beliefs we hold. b) Critical thinkers mistrust language and never assume that it will just take care of itself c) To believe is to choose and be committed. d) Logic refers to the truth or falsity of the claims made, i.e., content..

5. Which of these is associated with cultural relativism? a) scientism b) privileged religious texts c) subjectivism d) misplaced tolerance e) all these

6. Inappropriate appeal to faith was described as a) misplaced tolerance b) cultural relativism c) an argument stopper d) all a through c e) none of a through c

7. Which of a through c is **false?** a) Faith is only possible in the context of doubt and an absence of knowledge. b) Having faith that God exists would not just be unnecessary but totally impossible if you already knew he exists, given the meanings of the words "faith" and "know." c) The strength of one's convictions does not determine their truth. d) All of a through c are true e) All of a through c are false

8. Which of these is **false**? a) Ethical cultural relativism is put forth to combat the evils of ethnocentrism b) If we accept the arguments that scientific claims cannot be proven any more than value claims, then the ethical cultural relativist has no basis for including or excluding any belief as true just because a society accepts it as true. c)Ethical cultural relativism fails because societies often have multiple conflicting standards. d)If moral cultural relativism were correct then the views of Jesus, Socrates, Buddha, Martin Luther King and many others would count as wrong since they conflicted with the standard value beliefs of their societies. e) Ethnocentrism, defined as the belief that some feature of my society is always wrong.

Modify Which of these is **false**? a) Science is distinguishable by the fact that there are procedures that all scientists use that are not used by nonscientists. b) Since there is no evident procedure that is unique to the scientist, there is no reason to place one's faith uniquely in him or her. c) When considering the claims of a particular scientist we should always ask: What does the relevant scientific community believe on the issue? d) Since scientists are rarely uniformly in agreement, one must reason about which claim is best supported and whose word you are more willing to believe.

10. Which of these are **false**? a) Mythopoeic language aims at a deep felt sense of being in the world rather than conceptual clarity. b) The debate over evolutionary theory versus "creationism" is largely a pseudo debate caused by a failure to adequately distinguish the different functions of symbolic and literal discourse. c) Examples of literal discourse would be the language of science, accounting, business contracts, medicine d) Even though literal and symbolic discourse have quite different functions they ultimately share the same standards of truth e) A piece of literary fiction can sometimes reveal more truth about things than history or documentaries

11. Which of these is **false**? a) Values are only opinions, so it makes no sense to argue about them. b) Since values are subjective, one person is not really in a position to challenge anyone else's values. c) Since one person's tastes may very well be different from another's, and since people have a right to their own tastes, it is wrong to criticize the values judgments of another. d) Since what's right and wrong will depend upon the society, who am I to claim that a practice that is widespread in some other society is wrong? (the claim this rhetorical question makes) e) All these are false

12. Which of a through d is **false**? A) There is a clear progression toward truth from myth to philosophy/metaphysics to science. B) Science provides truth about the world and ourselves that is vastly superior to and replaces the function and value of myths and philosophy. C) Fiction in the form of stories, novels and symbolic discourse in myths and poetry often reveal greater insight and a more direct felt sense about the human condition than fact and literal truth (e.g., documentaries, science, history, etc.) D) A & B E) All are false

13. Which of a through d is **false**? a) “True for you (me, them)” adds nothing to a claim or argument b) A claim can be well-reasoned and false. c) A claim can be a fact at one time and not at another. d) Fact and truth mean the same thing. e) none of these are false

14. Which of these is **false** with regard to trying to appeal to a foundational privileged text without argument? a) It is a failure in mastered irony b) It is an example of fanatical closure c) It is an argument stopper d) It carries the burden of showing why that text or a particular interpretation of it should be privileged over others e) None of these are false

15. “I have a right to my opinion!” “Truth is in the eye of the beholder.” “Isn’t it all just a matter of belief?” These are examples of a) reason substitutes b) misplaced tolerance c) argument stoppers d) naive pragmatism

16. If truth is merely subjective as often claimed in statements such as "It may not be true for you, but its true for me," then a) It would be impossible for anyone to ever make a mistake about anything, you could never be wrong b) there is no reason to hold any of your beliefs at all c) there could be no truth before you were born or after you die d) knowledge would be impossible e) all of these

17. Which of a through d is **false** regarding religious ideology? Taking religious texts as literally and historically true would a) tend to undermine the sacred b) lend itself to fanaticism c) lend itself to thoughtless or excessive skepticism d) ignore the obvious fact that religious texts are written in a mix of literal and symbolic/mythopoeic discourse which has a different purpose than literal historical reporting e) none of these are false

18. Which of a through c is false? A) Truth and fact have different meanings. B) Facts are conclusions of well-reasoned arguments and are our only approach to the truth. C) Truth is what well-reasonedness aims at and our only approach to truth is through well-reasoned belief. D) none are false

19. Which of a through d is *false*? A) Since we act on our beliefs and our actions have consequences for ourselves and others how we arrive at them is often a crucial matter. B) Your beliefs are not merely personal matters. C) When I hold beliefs that have consequences for others, then with regard to that class of beliefs, I have a right only to those beliefs that are well-reasoned D) Regarding beliefs that can or do have an impact on others, I have a moral obligation to be a critical thinker. E) All these are true

20. Which of these is **false**? a) Ethical cultural relativism is often put forth to combat the evils of ethnocentrism b) If we accept the arguments that scientific claims cannot be proven any more than value claims, then the ethical cultural relativist has no basis for including or excluding any belief as true just because a society accepts it as true. c) Ethical cultural relativism fails because societies often have multiple conflicting standards. d)If moral cultural relativism were correct then the views of Jesus, Socrates, Buddha, Martin Luther King and many others would count as wrong since they conflicted with the standard value beliefs of their societies. e) Ethnocentrism, defined as the belief that some feature of my society is better than another society, is always wrong.