TAFT BROOME: What I have in mind for today is mainly, believe it or not, to go through some vocabulary strengthening. We've gotten to a point now where I think the rest of the semester is going to be much on what you all want to do, but next week is narrative ethics. But so I'd like to make sure we are getting a good vocabulary built up. And there'll be time for anything else.

I brought this in here in case I need it. It's like a-- what do you call it? The coaches have these blankets, security blankets, like a security blanket. But I don't intend to use it. But if something comes up, then I've got my security blanket. But I'd like to go through some definitions.

OK, now, first of all, I'd like to talk about some kinds of definitions, some kinds of definitions of words. One is called plain language. And the opposite-- not the opposite, but the contrast, contrasting term is term of art. So we could use the word, for example, stress in plain language. I got stressed out.

We can use the term stress in at least two terms of art. One is if you are a physician stress has a specific meaning. Next, if you are a civil engineer, stress has a specific meaning. And specific, those are terms of art, OK?

Now, in engineering-- and I would think that the same is true in medicine and the same is true in law that when you encounter a term of art, there is a standard meaning. So if you're a lawyer or if you're not a lawyer-- believe it or not, I've got a copy of *Black's Law Dictionary* that thick. I can read it, OK?

Now, some of the terms are tedious because they cross-reference a whole lot of other terms. And when I say tedious, it becomes too tedious for me to get through. But I would say that, of the terms that I've looked up in there-- and I don't know how many terms I've looked up in there, may be 30 over the years, I guess, but just thumbing through it, too-- a lot I can learn because in *Black's,* they give examples of the usage.

And I don't think that having-- it's an interesting thing about learning. I don't think that having understood those terms that I could use them properly. But I had to do this when I was chair of the Faculty Senate at Howard [? Hasley ?] Law School. And the lawyers and the political scientists can use their specialty skills in a faculty meeting. The engineers come in there with no skills. So it was helpful to at least learn that there's some differences.

I also had an experience once where I was in a meeting and somebody asked me to define engineering ethics. So I defined it. And this person was a physician. And she looked in this book, this encyclopedia of ethics, found engineering ethics, and it said something different, said, hold it, something different, term of art. And it just so happened that she looked in the particular encyclopedia of ethics where I wrote the engineering ethics citation.

AUDIENCE: You had written the definition that she looked up?

TAFT BROOME: Yeah.

AUDIENCE: But you told her something different?

TAFT BROOME: But I told her something different. And then she saw my name down there. And she says, what's going on here? I said, well, when you go to some other disciplines, like philosophy, a term of art has a definition that's usually located in a particular scholar, like Plato or Aristotle. And that when you write a paper, you reference two or three usages by certain scholars, and then you tell people how you are going to use it in that context today. An engineer doesn't do that with the word stress, OK? All right.

So what I'm going to do-- what I'm going what I'm going to do is to conduct a class where we're going to experience all three levels and we just have to be clear on which ones we're talking about. So when it comes to certain things, I feel authorized to give a definition, just like anybody else.

You look in the *Encyclopedia of Philosophy,* you'll find something else, OK? I've got to justify my usage. You've got to decide which one you're going to use. My experience tells me that, over time, you'll be doing the same thing. OK, so you just have to have one that's defensible in the end. So we'll mix them up.

AUDIENCE: When you say all three levels, what do you mean?

TAFT BROOME: One level is plain language. One level is standardized term of art. And the other one is-- I don't have a name for it.

AUDIENCE: But it's what you're talking about in the example?

TAFT BROOME: The last example.

AUDIENCE: Both definition [INAUDIBLE].

TAFT BROOME: That you can-- in other words, an individual, justifiable-- individually justifiable.

AUDIENCE: [INAUDIBLE]

TAFT BROOME: So you give a name to it. Maybe you can find a name for it. I haven't got it yet. So if a philosopher is talking, it's legitimate to say, well, what do you mean by the word ethics? And chances are the philosopher will not give you a dictionary or an encyclopedia definition. Chances are, they will reference what some scholar said or how some scholar used it in certain works and say that I will use it much the same way, but change it a little bit.

They'll have to change it a little bit because most of those scholars lived 2,000 years ago, to make it apply to today at the-- All right, not only that, but they're translations. OK, so let's go through some of that. Let's see.

Do I have-- I do. I've got an airport card. But for some reason or another, I have not been able to get it to work in here in this room.

AUDIENCE: [INAUDIBLE]

TAFT BROOME: Yeah.

AUDIENCE: I have my computer [INAUDIBLE] wireless if you want me to look something up.

TAFT BROOME: Yeah, why don't you get it out and whenever we want to, we can just look something up? We can-- I think the best one for the terms we're going to look at is-- how do you pronounce it-- Wikipedia.

AUDIENCE: Yeah, that's how you pronounce it.

TAFT BROOME: Yeah. OK, let me erase this board. And let's go through a couple of them. You bring up some. You can bring up some that you want to ask me about, bring up some that you want to say tell. It's good practice.

AUDIENCE: What category of words are we talking about here?

TAFT BROOME: Words that we've used, terms of art, words that we've used in this class.

AUDIENCE: OK.

TAFT BROOME: Words you think that if you're talking to anybody about engineering ethics may come up in the conversation and you would want to know what they mean.

AUDIENCE: So one word that you used in the last press was accountability [INAUDIBLE]. And I think accountability is an interesting word that gets used a lot [INAUDIBLE].

TAFT BROOME: Well, let's do it now. Let's go back over it. I will give you the term as I understood it in my military experience. And the term goes with two other terms. Responsibility, authority, and accountability, they all go together, OK? All right.

AUDIENCE: Yeah, so it'd be interesting to talk about. Because in the military terms, it sounded like accountability is the requirement to be able to explain a situation.

TAFT BROOME: Yes, with facts.

AUDIENCE: But I feel like, in ethics writing and ethics literature, the word accountability [INAUDIBLE]. But I don't know. That's [INAUDIBLE].

TAFT BROOME: Right, you don't hear a whole lot of that word used unless they're using it like a person in a case would use it. But no, it's not used a whole lot. But I think that it's the importance of it is to distinguish accountability from responsibility.

AUDIENCE: And responsibility is used.

TAFT BROOME: Is used. And that is you are answerable and sanctionable for some event or for something or something. And in order to answer, you have to have authority. So you have to have power. And power is given to the person in order to carry out one's responsibility. You're not given any more and you're really not given any less, given what somebody above you in authority-- in the chain of command thinks that is what you need to carry out your responsibility, all right?

So one very important thing about all of that in life, professional life, is that you can delegate authority. The bigger the organization, the higher up you are in it, the only way you can operate is to delegate authority. If you look at the charter, the charters of some universities-- and I've looked at some-- the trustees have all of this authority that they cannot possibly use, right?

If you look at the original versions of the charters that go back into the 19th century, they will give the trustees the authority to prescribe textbooks for classes. Now, you know, even in the last century, trustees couldn't do that. They had to delegate the authority, too.

But what the trustee cannot do is delegate the responsibility because if the students aren't taught and the charter, which is a contract between the organization and society-- if the charter says that you have to teach students and if the higher body-- that is, the legal body of-- no, not legal, let's call it the body politic of society says that it's going to sanction somebody for that, then you're the one, not the others.

OK, and accountability, the judge is going to say, well look, before we get started, let's put some facts on the table. Who should know the facts, OK? And that's accountability. So you see how these issues can come up. When they do come up, they come up in what is a term of art now, sensational cases, [INAUDIBLE], all of them, OK?

AUDIENCE: Now, responsibility and ethics, OK, so in the military, it's used to say you're sanctionable for [INAUDIBLE]. But I feel like I've read that in ethical cases, I've read the word responsibility and it implies the requirement to take action, like so and so has the responsibility to do this. But is that a correct usage of it? Or in ethics, should it also just mean answerable [INAUDIBLE].

TAFT BROOME: I also use the word--

[INTERPOSING VOICES]

AUDIENCE: --passive.

[INTERPOSING VOICES]

AUDIENCE: --what I'm asking. Is it an active word or only passive.

TAFT BROOME: I see what you're saying. I use the word event also, which means action, all right? So yeah, it's proactive. But well, I can't-- I'm trying to think now. Can I think of something passive? Can I say I am responsible to prevent?

AUDIENCE: Maybe the veteran is obligated, like you're morally obligated to do something, and then you have a moral responsibility. Maybe the responsibility is [INAUDIBLE] after the fact.

TAFT BROOME: Now, you're getting into an ethical-- or a term of art in ethics because Immanuel Kant had some specific definitions for duty and obligation, OK? So if you substitute the word duty for obligation, then you get a term of art in ethics.

And as a matter of fact, many people call Kant's ethics duty ethics, OK? Duty ethics. And that's a very powerful word in some cultures because your duty-- your duty not only has military connotations that are passed on in business, but it also has moral connotations that come from Immanuel Kant, OK? So put an asterisk beside that. Do some reading on that, please. A simple definition is not going to be good enough. But Kant's ethics are often called duty ethics.

And as you know, his style is to state the categorical imperative in more than one way. He says they mean the same thing, they're just different statements of the same thing. But if they were the same thing, why state them differently? So there are some connotations that's different in them. You have to read a little bit about that.

They also have another-- excuse me-- a political-- on my honor, I'll do my duty.

AUDIENCE: Yeah, duty-- I like that you brought up culture's perspective on duty. I would say the word duty [INAUDIBLE].

TAFT BROOME: That's a good point. Since the '60s, it has been. I don't know if that's going to pass. But up until the '60s, people would say you have a duty. And someone would stand back and say, yes, I have a duty. And in the '60s, that was an adverse term.

Well, part of the '60s was anti-Vietnam and part of that was anti-war in general. And a lot of that was anti-military. I wore my military uniform in Georgetown on a Saturday night in the '60s just to see what would happen. And it was crowded. And all of the anti-- all of the anti-war people were there.

And I walked three blocks. And I remember the number six. I was invited to six fisticuffs just on account. Notice the word I was invited. I did not accept the invitation, nor was the invitation foisted on me. Nobody took the first punch. But yeah, it came to that. I just wanted to see. I mean, I just wanted to see what would really happen.

And I was an objection. I objected to the war when I was in the army. I had a talk with my commander. My commander said, do you plan to object to the war when you're in uniform? I said no. He said do you plan to object to the war when you're on duty? I said no. He said, well what you do with your other time is none of my business.

So I did not object to the military. And I did not object to war. I thought that there was such a thing as a defensive war. But I just wanted to see what would happen then. And that's what happened.

So the word duty did fall in disfavor, I think, for many of those reasons in the '60s. And as long as my generation is around, it will probably have those connotations. But we're going out of the system now. And I suspect that duty will return and have its original force here in the United States. What about ethics? What's between ethics and morals? Did I ever cover that?

AUDIENCE: I don't think so. [INAUDIBLE]

TAFT BROOME: OK, well, let's deal with ethics and morals because I'll tell you this one thing that's for sure. And that is that if you ever start talking about engineering ethics and there's anybody in there who's not a philosopher, somebody is going to say, hold up, what's the difference between ethics and morals?

And they're going to say it because they will have different responses to your calling them unethical as opposed to immoral. And they want to set this up right at the beginning, OK?

And so I've had experiences. And I'll tell you an experience that tends to work. And that is to say, well, let's start with a word called etymology. And that's the study of the origins of words, OK?

And now, here's the story. There's a piece of it-- and I'm not sure what it is-- that's anecdotal, but I'd like to see if you can work this out and give me a cogent etymological answer.

It seems as though Aristotle had to his advantage the Greek word ethos. We still use that word, all right? And depending on who's translating the word, it might have slightly different meanings because this word seems to give translators into English a little bit of a problem.

Let me pause there for a second. No, I'll come back. I'll come back. And ethos had all of these meanings about what people thought were behaviors and values that were used in a particular community, so this community. And we're talking about city-states now.

	We're actually going to talk before nations. So when you talk about a community, you're talking about a city-state, which was their equivalent to a nation because city-states would go to war with one another. If you don't believe it, look at Athens and Sparta.
AUDIENCE:	But there are much more [INAUDIBLE] people, I mean, populations [INAUDIBLE] city-states.
TAFT BROOME:	Are you saying that there weren't a whole lot of riots?
AUDIENCE:	No, I'm just saying--
TAFT BROOME:	They're smaller?
AUDIENCE:	The theory about the governance of city-states is not easily applied to a nation.
TAFT BROOME:	Oh, right, right. Oh yeah, OK, right.
AUDIENCE:	So you said they were similar to nations.
TAFT BROOME:	No, they weren't. No, no, no, they weren't. But no, OK? It was the best thing they had to a nation then.
AUDIENCE:	Right, right.
TAFT BROOME:	All right, is that right? In Greece, that was right. It wasn't right in Egypt.
AUDIENCE:	In Egypt, that's true. There were no city-states.
TAFT BROOME:	They had empires. Yeah, OK, so you're talking about ethos. And Aristotle wanted to talk about the study of ethos to determine good and bad, right and wrong. And he didn't have a word for it. So he came up with this word, ethicos. And that were finally gets itself into the English language as ethics, OK?
AUDIENCE:	Wait, so what does ethos mean to Aristotle?
TAFT BROOME:	The habits and values that people had in a particular community.
AUDIENCE:	And then ethicos was the study of those ethos?
TAFT BROOME:	The rational study of it. So the way I look at the difference is that the first one is empirical and the second one is rational. That's the way I look at it. I don't if I could defend it, but that's the way I look at it, that the second one really is analyzing the first one, talking about it, OK? So all of this is in Greek, is Greek.
	Cicero, who was a Roman, comes along. And he was a Roman. He was a Roman. They called him an orator, but he was a lawyer. He was trained in Greek philosophy. He left Rome when he was young. His father sent him over there to one of the academies. I think it was Aristotle's academy that was still alive in those days. And he studied over there.
	And he translated some words. There was already an equivalent in Latin for ethos. It was mores. We still use that word-- ways, and mores, and all of that. We might take a pause in a few minutes to get on Wikipedia and see some of what they say. And when he got to ethicos, there was no Latin equivalent.

So my sources are not unimpeachable, but it seems to-- but it seems that-- but I've got sources. I've got references that say that Cicero came up with this word, morales as the Latin equivalent of ethicos. And that works its way into the English language as morals.

Now, let's talk about usage in the English language, some usages, OK? There is a branch of philosophy, a major division of philosophy called ethics. There is an equivalent term for ethics, moral philosophy. It's improper to say ethical philosophy.

A great deal of work in the area of ethics, as you know because we covered it earlier, was done by theologians. Not just Christian theologians, but obviously all theologians deal with ethics in one way or another. In the Western world, it was done in-- guess what-- Latin.

Now, some great scholars refer to Greek writings, too. But there were periods, long periods, when Christianity was hostile to Greek learning. So what happens when somebody says that you are immoral is that they are probably talking about the Latin treatment in the context of religion.

That's bad, all right? There is such a thing called professional-- there's a term called professional ethics, as you know, a term of art. And engineering ethics includes professional ethics.

When they talk about professional ethics, they're usually talking about-- or in the main, they're talking about codes of ethics and the discussions that-- and ethical discussions around codes of ethics to include cases, all right? But there is a term called professional ethics. But there is no term called professional morals.

AUDIENCE: [INAUDIBLE]

TAFT BROOME: Right. So when somebody says you're unethical, what that means is that-- this one is an assault on your character in terms of religion. This one is an assault on your behavior in terms of your working environment. All right, so all of this has to do with usage. How does a word get its meaning? Just simply by people using it a certain way and not using it another way. It's got nothing to do with logic. It's entirely empirical, all right?

OK, so if you are in some kind of a meeting, let's say you're on some kind of committee, and you have to deal with an issue like this, let's say-- I don't know-- the PTA and some students got caught cheating, the principal sets up a-- the president of the PTA sets up an ethics committee.

And they say, oh, you studied ethics in college. You be the chair of the committee. Well, you've got 500 people sitting in the audience. And the first thing they want to know is, what's the difference between ethics and morals, all right? Today in philosophy, or among philosophers, they-- and this is a popular thing, but no one philosophy is constrained to do it.

But it's most popular to talk about morals very much like we talk about mores. What do people say is good and right? What do they say is bad and wrong?

AUDIENCE: So it's just the norm.

TAFT BROOME: Like normative, yeah, right. Now, I'm going to get into something, so let's not get confused with normative ethics.

AUDIENCE: OK.

TAFT BROOME: All right, all right. And I'll tell you one problem I had with this word normative-- the word normative when I first heard it. And that was normal.

AUDIENCE: Normative ethics [INAUDIBLE]. I don't know what [INAUDIBLE]

TAFT BROOME: I'll come back. Yeah, let's go-- I'll come back to that. All right, remind me to come back if I don't very soon, all right? So what was I saying?

AUDIENCE: Morals are used to talk about what people say.

TAFT BROOME: Right. Today in philosophy, morals have to do with all of those issues. And ethics has to do with the systematic study of them, OK? So that is if a person wants to use the difference. If you get a research paper, you may find something altogether different.

The good news is if they use something different, they'll say it. They'll tell you exactly what their meanings are. So if you look up a journal, ethics.

OK, now, let's talk about when I use the word ethics, unless it's clear about the context or unless you ask me, I am talking about a branch of philosophy called ethics. And I could very well be talking about moral philosophy. This course is called engineering ethics, so I would choose more to use ethics, OK? But they mean the same thing.

Now, philosophy, depending on who you're talking to, has three-- or depending on who you're talking to, may have four major divisions, big divisions of philosophy. And then we'll talk about-- and here's the way it goes. I want to keep this down. I want to keep that on the board over there. We can't see this. So what am I going to do? I'll erase this.

AUDIENCE: That's fine. [INAUDIBLE].

TAFT BROOME: OK, philosophy. All right, now, one of your great divisions-- and I think I gave a short lecture on this-- is called metaphysics. and metaphysics is about saying what a thing is and what sort of thing it is. It talks about the rational world as opposed to the real world and the real world as opposed to the hyperreal world or hyperspace. OK, when you talk about all of those kinds of discussions, you're in the realm of metaphysics.

OK, the next one is epistemology. And epistemology has another name, theory of knowledge. What do you know and how do you know it? All right? The next one is called axiology. And the best way to define axiology is to say that is a word that has two referents. One of the words is ethics and the other one is aesthetics.

OK, so when we steady ethics, I think that it's fair to say that we are discussing a very large division of philosophy. Now, I am going to put in dotted lines, another division. And this dotted line is not so much debated as it is that when you start looking at all the various areas of philosophy, some of them don't fit into these categories.

Now, you can imagine, most of them fit somewhere overlapping. None of them-- very few of them fit directly under. You're not going to get an organizational chart out of this. You're going to get a Venn diagram, all right? But there's another one over there that deserves a name.

Some people have proposed names. Nobody likes them. Oh, but I will give you a name that you can use and everybody will know what you're talking about. They will argue with about using this word, but they won't have another word, OK? I want you to know that word, praxis.

Now, I'll tell you what praxis means, why it's an unpopular term in the United States and some of the other areas under it. Praxis is a word that was-- I don't think Karl Marx invented the word, but he popularized it.

So you see that if you use the word praxis, then somebody who really has an emotional aversion to communism is going to ask you if you're a communist. I use the word frequently. They don't like it.

OK, let me give you some other words. There is a branch of philosophy called-- and you could use it eology. And you can use it iology, praxiology. Now, but first let me say what praxis means. Praxis means the theory about the theory that just precedes action.

In other words, you've got an abstract concept, like Newton's second law, OK? You've got an airplane that has lost its propulsion, its power, and is getting ready to fall out of the sky. And you want to figure out how long it's going to take. The argument is that you don't go directly-- the mind does not go directly from the abstract theory to the practical application. Something happens in the middle.

AUDIENCE: I've heard it defined as theory into action.

TAFT BROOME: Theory into action. I've never heard that term, but I can use that, theory into action. Now, in philosophy, there is a robust body-- or a robust category of philosophy called action theory or theory of action. You can write a dissertation on theory of action in most-- any big university. When I say big university, any university that has a philosophy department that has enough faculty to cover the others--

AUDIENCE: So theory of action is not ethics?

TAFT BROOME: Theory of action is not ethics. It overlaps. This is a term of art, theory of action.

AUDIENCE: And it follows under ethics?

TAFT BROOME: Venn diagram, it falls closer under praxis than any of the rest of them. But praxis is really talking about theory just before you act. Theory of action is talking about praxis and action.

AUDIENCE: OK, got it.

TAFT BROOME: But if you want to write your dissertation on action theory, you go to any department where they can cover these three and have faculty left over, you will be able to do this, OK? All right, so theory of action is big. Hi, Tony. We're doing definitions, vocabulary, not a structured approach.

Now, people who talk about-- or let's keep going. There is a very interesting word here, praxiology. That is a translation of a Polish term, OK? Interesting background, I want to elaborate. I have a confession as to why I want to elaborate.

MacMillan has a new encyclopedia of philosophy coming out. And the most interesting citation in it is the one on praxiology. [INAUDIBLE] is beginning to get suspicious. Why did I say most interesting? That's a very loaded term for a class like-- no, I wrote it.

AUDIENCE: That's OK, [INAUDIBLE].

TAFT BROOME: Well, I mean that was a label. We're not talking about a whole lot of words. I can't remember how many words it was. I think I gave about 10 pages. That was a lot of research. What happens is that practice theology got its start by a man named Kotarbinski. He's Polish.

Now this, being Polish, is very significant, OK? Because all of the development of praxiology, it reached its-- it developed from Kotarbinski and reached maturity during a time when Poland was politically cut off from the West. We could not get the papers out and we could not get papers in.

So we became aware of-- when I say we, most scholars, most of us-- there were some who traveled in Poland during those days and talked about philosophy. Well, I think John Dewey-- somebody traveled in there and came back talking about pragmatism, OK? So praxiology came out when-- let me see if I can pronounce his name correctly. If I cannot pronounce his name correctly-- his first name is Karol, K-A-R-O-L. You know who I'm talking about? Yeah?

AUDIENCE: [INAUDIBLE] Pope John Paul II.

TAFT BROOME: Right.

AUDIENCE: Polish, [INAUDIBLE].

TAFT BROOME: W-O-L-T and then more It's hard. Now, incidentally-- now, I qualified in Russian, qualified Russian and French. I can still read Russian. I don't mean read it with understanding, but I can pronounce the words correctly.

Polish is different. But unless they throw one of those accents in there on top of the letter-- and they've got a lot of them in Polish-- I could pronounce his name, [INAUDIBLE] I think it's-- let's say that's about 70-80% right, all right? But if they wrote it in Polish, I could probably get it about 95% right.

When he became Pope, that opened up all of this scholarship from Poland to the West. And it was around that time that praxiology got into philosophy and there. And what they are doing-- when I say that they were doing it with praxiology was writing a general theory for the learned disciplines that we call the practical learned disciplines-- law, medicine, engineering, social work, but not sociology, business, but not economics. See where I'm going with this?

AUDIENCE: So the discipline [INAUDIBLE]

TAFT BROOME: Yes. And they were trying to develop a branch of philosophy that would guide that discussion. OK, so what they were trying to do was to get-- open up this whole new category. And they did pretty good at it, I think. They suffered because they did not have wider-- wider scope of debate. They only had themselves.

And they were pretty much sold on-- you know how it is. The four of us get together and say, we're going to invent a whole new category of philosophy. We're pretty much of one mind from the start. Really, to mature this thing, somebody's got to come in from the field, you know? So they were cut off, politically cut off from the Western world.

All right, so-- but I think that whatever you do with this chart, remember that when the definitions come up, we're talking about a Venn diagram, not an organizational chart because things don't fit neatly into these categories. But almost everybody will agree that these three-- I'm sorry there's one other one. There is one other one that actually fits in this category. And philosophers want to include it. Let's talk about some others that fit into this category. And, sometimes they'll include it.

One of them is philosophy of education because there is such a thing called educational psychology, which is a science and fits very closely under epistemology. Notice this science. We're going to-- I'm getting excited about it now. Let me organize my thoughts. I want to go back.

Let's talk about where some learned disciplines fit into these categories, fit into categories. OK, science, a fair-- the fair-- the most accurate short statement about what science is is that it is a learned discipline for the production of knowledge about the physical world in pursuit of the truth about the physical world.

So therefore, science would be closer to epistemology with a good overlap with metaphysics than an axiology. Ethics clearly is an actuality by definition. But any theory of values fits closer to archeology than anything else.

So if you want to talk about art, that would fit closer to axiology than anything else, theory of beauty, if you want to talk about art. That's not the only way to talk about art, but that's one way to talk about art, aesthetics. Aesthetics, how many of them do we have? Well, think of your senses. Beauty in the eye is called aesthetics. There's such a thing as gustatory values.

AUDIENCE: Is that [INAUDIBLE] study?

TAFT BROOME: Gustatory?

AUDIENCE: Aesthetics?

TAFT BROOME: Oh yes.

AUDIENCE: [INAUDIBLE] philosophy.

TAFT BROOME: Oh yes. Oh yes, and guess where they work? In art departments. Oh yes.

AUDIENCE: But gustatory means like taste?

TAFT BROOME: Food, yeah, yeah. You don't have to go to France to get a PhD in gusta-- you're not going to get a PhD in gustatory philosophy over here. But no, gustatory, you know-- what's another one?

AUDIENCE: [INAUDIBLE]

TAFT BROOME: Music, we can do that over here. Yes, music. Tactile, that's the formal term-- T-A-C-T-I-L-E-- has to do with not feelings, but with feeling, not the passions, but with the sense of feeling. Here's another one. Probably the most important one has to do with sight. That's the most important one.

But there's another one that is very-- it's coming along now. And something is going to happen in your lifetimes-- yours too, [? Tori-- ?] that is only going to happen to me when I'm in full retirement. And that's in the area of olfactory philosophy, and praxis, and all of that.

You know what they've just done? I got this-- I get this from-- I've been following-- well, first of all, the olfactory-- the olfactory was intriguing to me when I learned that the olfactory sense-- the sense the sense of smell-- is the only one that does not go through the cognitive area of the mind for processing before it goes other places in the body, that everything else requires some processing first, some reason, and all of that.

Well, it's like put the Necker cube up there. It's on a flat surface, but we see three-dimensional. The brain did that. Olfactory goes straight to the psychomotor. And it's supposed to be the only one. I'm talking at the level of the best documentaries on television, all right?

I can go a little bit further. I hang out with a lot of psychiatrists on a friendly basis. But we talk about these things, so that, too. But something has happened. They have now been able to-- OK, let me back up a minute. There's something that we engineers understand very well.

And that is, in mathematics, we understand what it means to talk about a basis set. We can talk about three spaces-- x, y, z. And everything is either on one of the axes, in a plane-- I mean, everything can be described in terms of that basic three categories-- color, basic colors, everything else is a mixture of them. They've got the olfactory down to a basic set. They've got it down. And so now, they're going to be able to do a lot of different things with it.

I went to a movie theater. It was a special movie theater over in Baltimore. I don't if they still have it. But it was a movie theater. But the movies they played in there didn't last for five minutes and they have maybe two or three movies. That was all. It was part of something else. You go in there and it was all set up like a movie theater. But they only had these small movies.

It was a movie theater that had these little spouts right by your seat that gave out smells. So when somebody cut an apple pie, you could smell it. God, yeah. But there was this fear of what would happen to people if you tried to control the olfactory.

Now, you do it with the sound. You hear a tiger in the movies, 3D. You clearly do it the eye, OK? There have been some theaters that have had-- where movies had the tactile worked in. I'll tell you two of them. In some movie theaters, this movie *Earthquake* actually had sound thrown into the movie below the auditory level, but made you feel like were moving, OK?

There was another one down in North Carolina when I was a kid where they had another sound below the auditory level. And they played it when the monster was creeping up behind this lady. And just as the monster was putting his hands they blew that sound in. You could feel it. People ran out of the theater. Well, that's what they say. Anyway, the olfactory may very well get into the movies.

But hello. Are you joining us? Or you're just early for the other one?

AUDIENCE: Yeah.

TAFT BROOME: OK, you can join us, though. So olfactory may be in the movies. My instincts-- not instincts-- I like to use the word instinct because I believe in instincts. But I think history will tell that it's going to take a little while. First of all, *The Wizard of Oz* was not the first film to use color. A number of others came out before and people didn't like them.

So my guess is that if they start really making films with the olfactory-- and now, they can do it because they can put it on a tape and they can have the instruments there. And for every smell, you don't need a different pipe organ like they had in this theater. For every smell they had a different tube. Here, all you have to do is have the basic set and mix them properly to get any smell you want.

Well, they're going to have to work out the danger levels of all that because some of our smells operate below the level of consciousness. And they tell us who we like and who we don't like. Yeah, yeah, and all these other things. Perfume-- oh, they're going to be-- those are going to be some real ethics problems.

Perfumes, they come from these glands from these animals, a lot of them. So the animals are using the perfumes on each other. And then we turned it into perfume. And perfume operates at below the level of consciousness. It's not just a kind of olfactory-- well, it's olfactory, but it's not purely smell.

Something is working at the lower levels that's telling us about persons. And it's going to be really interesting when the olfactory becomes a part of everybody's life-- consciously becomes a part of everybody's life, particularly in the movies. So look out for that one.

People are going to be writing dissertations on that. Now, I'm going to tell you what mythology can do. I read a science fiction book. I got it at home. This guy goes to this-- no, no, these beings from another planet come to Earth and, for some reason, want to take this guy back with them to their planet. I think a crime has been committed or their planet and they don't have a history of crime.

So they come down here to get a detective, Sherlock Holmes, and take the person back to help them find this crime. But these beings, the sentient beings on this other planet, evolved from lizards. And the main character is the equivalent of Michael Jackson-- or no, I don't want to use Michael Jackson. No, he's a big rock star. But his instrument is not music. It's olfactory.

AUDIENCE: [INAUDIBLE]

TAFT BROOME: And he's able to mix these sounds. And everybody goes, oh, this guy's a great artist. And a human being can't get it, right? Yeah, so he's mixing these olfactory chords and playing. And that's how science fiction can develop a mythology that gets us ready for stuff.

So now, I think I have a basis for thinking about what life would be like if the olfactory got in there, OK? So I believe that philosophy of engineering fits over here in this category. Now, we have something we can start with, and then I'm done on this piece and we can go to some others. We've got nine minutes. No, we have 14, which is good time.

Now, there is-- there exists two branches of philosophy that go together. The differences are subtle. One is called theory of law. And the other one is called jurisprudence.

And depending on what encyclopedia you get or what dictionary you're looking at, they will either equate theory of law to jurisprudence or they'll go off in a long dissertation about how they're different. And you will think that they're splitting hairs. I anticipate you'll think that they're splitting hairs.

Here's what I think the difference is. When I say I think, here's my learned judgment about the difference. There's a difference, OK? Theory of law is when you look at-- I've looked at the journals written mainly by philosophers, jurisprudence, but mainly by lawyers.

You can say that they're the same thing. But, they will be-- the lawyers will be interested in different topics than the philosophers. And the lawyers will write in an almost legalistic style, whereas the philosophers will write in a philosophical style.

So when you go to a law school, any lawyer with a JD can teach jurisprudence, but not every lawyer can teach theory of law, and certainly not every philosopher can teach theory of law. And I would say that none of them can teach jurisprudence because they don't practice law. So it's practitioners of law that do it, all right?

Now, this statement is very important because I think that all of this is going to break down into categories like this when it comes to the practical disciplines once we start doing more work in the practical disciplines, that what you're going to see-- what you see already is that in philosophy of education, there are people whose dissertations were in philosophy of education.

And nobody else teaches philosophy of education. But then there are journals that talk about philosophical issues in education written by educators who've never taken a course in philosophy, but who are talking to each other about what their discipline constitutes.

So please anticipate in your lifetime that much more discussion is going to take place in this category. And when it does, it will break out into these two categories. And that philosophy of engineering will essentially break out, like I think it is already, between philosophical issues that practicing engineers talk to each other about and philosophical issues that philosophers or philosophers/engineers, like myself, want to talk to mainly the general public about, not so much each other.

Now, there was a term I said I was going to get to. I asked y'all to remind me. Maybe I got to it.

AUDIENCE: I think you said that there was a branch [INAUDIBLE] essentially of philosophy.

AUDIENCE: Oh, yeah. [INAUDIBLE]

TAFT BROOME: Where?

AUDIENCE: [INAUDIBLE].

TAFT BROOME: Oh, I said education? It was education. Education exists out there only because there's been a whole lot of philosophical discussion devoted-- oh, I know what it was. It was normative ethics.

AUDIENCE: Oh, right.

TAFT BROOME: But I think that education really belongs in the practice category.

AUDIENCE: [INAUDIBLE]

TAFT BROOME: They don't know what to do with it. They just know that there's a lot of work that's been done by a lot of great thinkers who've used the tools and methods of philosophy to discuss education. But they don't know where to put it because most of it is still not knowledge. You just don't come into a classroom with 30 12-year-olds and start using a systematic approach to teach them mathematics. There's something else involved. It's an art form.

It's like engineering. There's something that is not parts of that, OK? So they don't really know where to put it. Like I said, there's so much of it. And so many great minds have been put to the task on it that they can't ignore it. And in a school of education in a big state university, you will find at least one faculty member who does philosophy of education. I think that's a fair statement I don't know of any that don't. You've got to take a course in it if you're going to get a graduate degree in it.

Now, when we go to ethics, ethics breaks out into two divisions. I'm going to use some terms. This is what this class is all about-- terms, terminology, OK? I'm going to use three terms, OK? One is called normative ethics. And the other one is called descriptive ethics.

Normative ethics has as its goal to say what you should do or should not do. Descriptive ethics says what you did and whether it was right or wrong. OK, so [INAUDIBLE] blew the whistle. Was that right or wrong? What should he have done? You see, there are two different questions.

Most ethics done by philosophers is called theoretical ethics. And they do normative ethics. Most applied ethics-- that is, applying ethics to specific kinds of cases, which constitutes the greater part of engineering ethics-- is descriptive.

You get a case, and you say what somebody did, and you ask whether they did the right thing or the wrong thing. I have given equal weight to both in this class because I want you to know-- I want you to be able to do normative ethics. I want you to be able to say what they should have done.

Now, I've said with sciences. Let's talk about science. Let's talk about-- we've talk about ethics, science, philosophy. Let's see if we can find some learned disciplines with the next four minutes that we have. Science, a learned discipline for-- on the production of knowledge about the physical world.

Ethics, in its most general statement, a learned discipline on the production of values. We can get more specific. And we should get more specific. But if you take that definition, however so cursory it may be, it does make a distinction between ethics and science. One studies the facts and the other ones studies the value.

Over in this category, we're going to be talking about engineering, and law, and others. All of them have to do with changing the world or controlling it, more precisely to intervene into it with an end in mind. So we are not about creating knowledge about the world. We're not about-- our specialty is not about creating knowledge about the world. We may create knowledge as we go, but that's not our specialty.

Our specialty is not about valuing the world. We have to include values in it, but that's not our specialty. Our specialty has to do with changing it. Now, here's the subtlety in changing it. A scientist says, we change the world, too. Well, we have to change the world in response to certain kinds of imperatives. We've got to do it now.

In military, the enemy is coming over the hill. Engineering, we've got to go to the moon. In medicine, you're sick. I can't go in the laboratory and do some more experiments, OK? So we have a systematic approach to dealing with situations that are knowledge deficient as well as values deficient. That's what makes the engineering, medicine, law, and these other learned disciplines what they are. It's when we're able to take that leap in a systematic way. We'll talk more about that.

I think we've just about gotten to the end. This is a continuing saga. We'll always talk about terminology from here out. But I think I've gotten some of the main ones.