

### 1: Korea REACH - The Act on the Registration and Evaluation of Chemicals | CIRS

*Aristotle's anti-Platonic metaphysics: the ultimate realities are ordinary objects of our experience, like people and animals. Each of these is a substances, the most fundamental type of being.*

Overview[ edit ] The Toxic Substances Control Act of mandated the EPA to protect the public from "unreasonable risk of injury to health or the environment" by regulating the manufacture and sale of chemicals. This act does not address wastes produced as byproducts of manufacturing, as did the Clean Water and Air Acts of the era. Instead, TSCA attempted to exert direct government control over which types of chemicals could and could not be used in actual use and production. For example, the use of chlorofluorocarbons in manufacturing is now strictly prohibited in all manufacturing processes in the United States, even if no chlorofluorocarbons are released into the atmosphere as a result. The types of chemicals regulated by the act fall into two broad categories: New chemicals were defined as "any chemical substance which is not included in the chemical substance list compiled and published under [TSCA] section 8 b. Existing chemicals include any chemical currently listed under section 8 b. The distinction between existing and new chemicals is necessary as the act regulates each category of chemicals in different ways. Subchapter I of the TSCA, "Control of Toxic Substances," is the original substance of the act, PL , establishes the core program, including regulation of polychlorinated biphenyl PCB products and bans certain activities with respect to elemental mercury. Congress in under PL and amended in under PL Congress in under PL and requires the EPA to publish a guide about radon health risks and to perform studies of radon levels in schools and federal buildings. Congress in under PL requires the EPA to identify sources of lead contamination in the environment to regulate amounts of lead allowed in products, including paint and toys, and to establish state programs that monitor and reduce lead exposures. It has engaged in protracted negotiations with the U. General Electric company and other firms for remediation of sites contaminated with PCBs such as the upper Hudson River. History[ edit ] The TSCA was passed by the United States Congress and signed into law by President Gerald Ford on October 11, , after many years of negotiation between different factions of the government and chemical producers. For example, the existing law only took effect after the damages were done and did nothing to prevent future damage. First, manufacturers should notify officials when they use or produce new chemicals, or plan to sell a significant volume of old chemicals. Subsequently, the legislation passed in The law attempts to oversee the manufacture, processing, distribution, use and or disposal of such chemical substances. New chemicals, however, would be subject to review for health and environmental risks. It is difficult to collect information from industries about the risks of chemicals and the EPA has concluded that conducting its own testing is too costly. This occurs either by 1 mutual agreement, or 2 voluntary industry efforts under the HPV Challenge Program. For existing chemicals, manufacturers need to generate and report data on risk, manufacturing and processing, adverse health effects, published and unpublished health and safety studies, and "substantial risks. The PMN screening system gives the EPA little support for gathering information about existing chemicals, which constitute the vast amount of chemicals in commerce. The EPA has only 90 days from receipt of a PMN to act before the new chemical may be legally marketed and included in products. In consequence, only 40 percent of acute toxicity and mutagenicity testing is ever completed, even less data on long-term effects or specific endpoints including subchronic, neurotoxicological, developmental, reproductive, and chronic is ever generated. Additionally, less than 5 percent of data on toxicity to aquatic organisms is submitted with a PMN. Half of these nonetheless ultimately entered and are still on the market. SAT consists of a team of expert scientists and specialists who evaluate the potential environmental fate, and health and environmental hazards of new chemicals [36] Since there is little to no data received with the PMNs, hazard assessments for chemicals depend heavily on models, SARs based on analogous chemicals, or, in some cases, data on the subject chemical retrieved from public databases or reference material such as Beilstein. The EPA may regulate chemicals that enter the market only under the standards of TSCA and also carries the burden of proving the safety of existing chemicals [35] Criticism[ edit ] TSCA has been severely criticized by non-governmental organizations, academics, scientists, and even government agencies for failing

to regulate the safe use of chemicals affecting human health and environmental welfare effectively. They argue that "the inability to function as intended results from a series of legal, organizational, and political challenges. Producers are not required to investigate and disclose sufficient information on the hazard traits of chemicals to government, the public, or businesses that use chemicals. Government lacks the legal tools it needs to efficiently identify, prioritize, and take action to mitigate the potential health and environmental effects of hazardous chemicals. Industry and government have invested only marginally in green chemistry research, development, and education. Sometimes the EPA does not even know what chemical the TSCA application refers to, and cannot report any problems because "health and safety data are of limited value if the chemical the data pertain to is unknown. The same poll reported that 33 percent of the respondents answered that everyday exposure to toxic chemicals is a serious issue. The chemical industry is frustrated with state-level restrictions because state policies on chemical products create "market disruption and impose unnecessary regulatory burdens, without necessarily improving public health. The chemical producers support implementation of more uniform and consistent regulations at the federal level that pre-empt state law. In addition, businesses would like a standard that can be applied uniformly, rather than having to report many different and overlapping sets of requirements to the individual states where the companies do business. Labeling is an alternative solution to give the consumer the freedom to choose what products to buy "as a condition for entering or remaining on the market, using a standard that establishes a reasonable certainty of no harm. Green chemistry is an innovative way to deal with chemicals before they become hazards, with the goal of making chemicals and products "benign by design. The CGCI responds to the demand by consumers and environmental groups advocating for greener products. The ultra fine nano particles can enter the human body via the skin, lungs or intestinal tract and may induce undesirable genetic changes as a side effect. For instance, the European parliament implemented a successful comprehensive reform of REACH by applying the "No data, no market" rule to pressure chemical manufacturers to submit safety data for both new and existing chemicals produced in or exported to Europe. The group is calling for greater oversight and reporting of health hazards of chemicals contained in everyday products. Communities from minority groups are disproportionately affected by "environmental threats from toxic contamination, locally unwanted land use LULUs to unsafe and substandard housing and natural-resource extractions" cannot wait for years until bureaucratic processes demonstrate their health has been at risk from living under these conditions. Environmental disparities is a prevalent issue for low income-people as they become trapped in "housing discrimination" [57] living in polluted neighborhoods unable to relocate to a nicer area. TSCA regulation can protect public health by "limiting the market for hazardous chemicals and promote safe chemical production. The elderly are vulnerable from exposure to chemicals that may impair their weak immune system, and cause heart disease among other health issues from interactions with medication. Children are vulnerable to the health impacts of environmental injustice because their immune system is immature and they cannot handle the amount of chemicals in relation to the size of their body. To protect vulnerable groups the federal, state and local government could implement better policy to protect them from the increasing number of chemical exposure happening in daily basis. The main health problems associated with environmental chemical pollutants are asthma, lead poisoning and obesity. Therefore, "information on potential toxicity" can help parents to make better decisions about the products they purchase for the use of the children. Information about the toxicity is only available for about "two-thirds of the high production volume HPV chemicals. For instance, in , the state of Maine implemented the Kid-Safe Act to protect children from exposure to lead in toys "and bisphenol A better known as BPA in baby bottles" [49] [64] In January , the Center for Science in the Public Interest released a report entitled Seeing Red - Time for Action on Food Dyes which criticized the continued use of artificial food coloring in the United States. The report urges the Food and Drug Administration to take action to ban or curtail the use of such dyes. Eating healthy food can reduce the impact of toxic chemicals, for instance consuming organic food. Mothers who are breastfeeding can expose their child to toxic chemicals in their milk. Occupational exposure to chemicals can happen through direct skin contact, inhalation, ingestion or eye contact. People working under certain occupations are more exposed to toxic chemicals that can have a negative longtime effect in their health. If the rate of exposure exceeds the capacity

of the body to detoxify and eliminate them, it can accumulate in the body and potentially harm it. Male and female fertility can be compromised from exposure to toxic chemicals. Communities near agricultural farms may be at higher risk for exposure to pesticides. Farm workers are exposed to pesticide-related illness from the use of chemicals that can have delayed health effect such as cancer and reproductive dysfunction. Among the chemicals farmers get exposed, Dibromochloropropane DBCP , a soil fumigant used to control nematodes can lead to "testicular toxicity and human reproductive dysfunction. It included new requirements on early detection technology and plans that protect against drinking water contamination. While CSIA would call for an analysis of all existing chemicals, the chemical testing procedures available today would still take decades to analyze all of the existing chemicals in the industry. In the meantime, CSIA would not provide any solutions to health problems for populations in these "hot spots" while potentially toxic chemicals already in use are being screened. Lautenberg Chemical Safety for the 21st Century Act". Deadlines for action, elimination of the "least burdensome" requirement for Section 6 regulation, a sustained source of funding, existing chemical review prioritization, consistent applicability of a new TSCA safety standard for both new and existing chemicals, transparency and confidential business information, chemicals contained in articles, and state preemption. On Wednesday, June 22, , President Barack Obama signed the bill into law, remarking that "even in the current polarized political process here in Washington, things can work. TSCA requirements on developing chemical information[ edit ] Developing a sufficient information is important for risk management and for prevention from potential hazardous substances.

### 2: Drugs of Abuse | National Institute on Drug Abuse (NIDA)

*From Substance to Subject. by Nathan Rotenstreich. Share your thoughts Complete your review. Tell readers what you thought by rating and reviewing this book. Rate it \**

The self-report measure is comprised of the following subscales: In addition, Parental Substance Use e. Substance Use Alcohol - 1 item assesses lifetime alcohol use. If positively endorsed - 4 questions follow that further assess heavy drinking and past 6-month alcohol use. If lifetime use of a particular drug is endorsed - a question follows about use of that drug in the past six months. If use in the past six months is endorsed - subject is asked about use in the past 24 hours. If use in past 24 hours endorsed - Subject identifies the drug used. Smoking - 1 item assesses smoking. If positively endorsed, 3 questions follow that assess smoking amount and frequency. If lifetime consequences are endorsed - subject is asked if these occurred in the past six months. If consequences endorsed in either lifetime or past six months - subject is asked to attribute problems to drugs, alcohol or both. Dependency - 10 items assess dependency in lifetime. If lifetime dependency is endorsed - subject is asked if these occurred in the past six months. If dependency items are endorsed for either lifetime or past six months - subject is asked to attribute dependency problems to drugs, alcohol or both. Treatment - 4 items assess involvement in treatment in lifetime. If lifetime treatment is endorsed - subject is asked if treatment was received in the past six months. If treatment in either lifetime or past six months - subject is asked to attribute dependency problems to drugs, alcohol or both. If mother does or has used street drugs- subject asked to assess whether this use "is a problem" currently or "was a problem" in the past. If father does or has used street drugs- subject asked to assess whether this use "is a problem" currently or "was a problem" in the past. Twenty-five scores are computed: Starting with version Substance use and symptomatology among adolescent children of alcoholics. *Journal of Abnormal Psychology*, 4 , Do adolescent symptomatology and family environment vary over time with fluctuations in paternal alcohol impairment? *Developmental Psychology*, 37 2 ,

### 3: From Substance to Subject

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But this does not mean the branch of philosophy that should be studied first. Rather, it concerns issues that are in some sense the most fundamental or at the highest level of generality. Rather, his description involves three things: A study of  $x$  qua  $y$ , then, is a study of  $x$  that concerns itself solely with the  $y$  aspect of  $x$ . Rather it is a study of being, or better, of beings—of things that can be said to be—that studies them in a particular way: Of course, first philosophy is not the only field of inquiry to study beings. Natural science and mathematics also study beings, but in different ways, under different aspects. The natural scientist studies them as things that are subject to the laws of nature, as things that move and undergo change. That is, the natural scientist studies things qua movable  $i$ . The mathematician studies things qua countable and measurable. The metaphysician, on the other hand, studies them in a more general and abstract way—qua beings. So first philosophy studies the causes and principles of beings qua beings. We will explain this connection in Section 3 below. Whereas natural science studies objects that are material and subject to change, and mathematics studies objects that although not subject to change are nevertheless not separate from  $i$ . Characteristic of these perplexities, he says, is that they tie our thinking up in knots. They include the following, among others: Are sensible substances the only ones that exist, or are there others besides them? Is it kinds or individuals that are the elements and principles of things? And if it is kinds, which ones: Is there a cause apart from matter? Is there anything apart from material compounds? Are the principles limited, either in number or in kind? Are the principles of perishable things themselves perishable? Are the principles universal or particular, and do they exist potentially or actually? Are mathematical objects numbers, lines, figures, points substances? If they are, are they separate from or do they always belong to sensible things? But it is not always clear precisely how he resolves them, and it is possible that Aristotle did not think that the *Metaphysics* contains definitive solutions to all of these perplexities. According to this account, beings can be divided into ten distinct categories. Although Aristotle never says so, it is tempting to suppose that these categories are mutually exclusive and jointly exhaustive of the things there are. They include substance, quality, quantity, and relation, among others. Of these categories of beings, it is the first, substance *ousia*, to which Aristotle gives a privileged position. Substances are unique in being independent things; the items in the other categories all depend somehow on substances. That is, qualities are the qualities of substances; quantities are the amounts and sizes that substances come in; relations are the way substances stand to one another. Each member of a non-substance category thus stands in this inherence relation as it is frequently called to some substance or other—color is always found in bodies, knowledge in the soul. Neither whiteness nor a piece of grammatical knowledge, for example, is capable of existing on its own. Each requires for its existence that there be some substance in which it inheres. In addition to this fundamental inherence relation across categories, Aristotle also points out another fundamental relation that obtains between items within a single category. So the genus  $e$ . The same holds in non-substance categories. There has been considerable scholarly dispute about these particulars in non-substance categories. For more detail, see the supplementary document: Each category thus has the structure of an upside-down tree. The individuals in the category of substance play a special role in this scheme. Indeed, Aristotle offers an argument 2a35—2b7 to establish the primary substances as the fundamental entities in this ontology. For these secondary substances are just the ways in which the primary substances are fundamentally classified within the category of substance. As for the members of non-substance categories, they too depend for their existence on primary substances. A universal in a non-substance category,  $e$ . Similarly, particulars in non-substance categories although there is not general agreement among scholars about what such particulars might be cannot exist on their own. The Role of Substance in the Study of Being Qua Being The Categories leads us to expect that the study of being in general being qua being will crucially involve the study of substance, and when we turn to the *Metaphysics* we are not disappointed. As we noted above, metaphysics or, first philosophy is the science which studies being

qua being. In this respect it is unlike the specialized or departmental sciences, which study only part of being only some of the things that exist or study beings only in a specialized way e. So the universal science of being qua being appears to founder on an equivocation: There are dining tables, and there are tide tables. A dining table is a table in the sense of a smooth flat slab fixed on legs; a tide table is a table in the sense of a systematic arrangement of data in rows and columns. Hence it would be foolish to expect that there is a single science of tables, in general, that would include among its objects both dining tables and tide tables. Neither of these has a single definition that applies uniformly to all cases: Not all of these are healthy in the same sense. Exercise is healthy in the sense of being productive of health; a clear complexion is healthy in the sense of being symptomatic of health; a person is healthy in the sense of having good health. But notice that these various senses have something in common: Other things are considered healthy only in so far as they are appropriately related to things that are healthy in this primary sense. The beings in the primary sense are substances; the beings in other senses are the qualities, quantities, etc. But a horse is a being in the primary sense—“it is a substance”—whereas the color white a quality is a being only because it qualifies some substance. An account of the being of anything that is, therefore, will ultimately have to make some reference to substance. Hence, the science of being qua being will involve an account of the central case of beings—“substances. Thus, first philosophy must also concern itself with the principle of non-contradiction PNC: This, Aristotle says, is the most certain of all principles, and it is not just a hypothesis. It cannot, however, be proved, since it is employed, implicitly, in all proofs, no matter what the subject matter. It is a first principle, and hence is not derived from anything more basic. What, then, can the science of first philosophy say about the PNC? Those who would claim to deny the PNC cannot, if they have any beliefs at all, believe that it is false. For one who has a belief must, if he is to express this belief to himself or to others, say something—he must make an assertion. He must, as Aristotle says, signify something. But the very act of signifying something is possible only if the PNC is accepted. Without accepting the PNC, one would have no reason to think that his words have any signification at all—they could not mean one thing rather than another. So anyone who makes any assertion has already committed himself to the PNC. One might have thought that this question had already been answered in the *Categories*. This would seem to provide us with both examples of, and criteria for being, primary substances. He does not seem to doubt that the clearest examples of substances are perceptible ones, but leaves open the question whether there are others as well. Before answering this question about examples, however, he says that we must first answer the question about criteria: But even if we know that something is a substance, we must still say what makes it a substance—“what the cause is of its being a substance. This is the question to which Aristotle next turns. To answer it is to identify, as Aristotle puts it, the substance of that thing. Presumably, this means that if x is a substance, then the substance of x might be either i the essence of x, or ii some universal predicated of x, or iii a genus that x belongs to, or iv a subject of which x is predicated. This characterization of a subject is reminiscent of the language of the *Categories*, which tells us that a primary substance is not predicated of anything else, whereas other things are predicated of it. Candidate iv thus seems to reiterate the *Categories* criterion for being a substance. But there are two reasons to be wary of drawing this conclusion. First, whereas the subject criterion of the *Categories* told us that substances were the ultimate subjects of predication, the subject criterion envisaged here is supposed to tell us what the substance of something is. So what it would tell us is that if x is a substance, then the substance of x—“that which makes x a substance”—is a subject that x is predicated of. Second, as his next comment makes clear, Aristotle has in mind something other than this *Categories* idea. For the subject that he here envisages, he says, is either matter or form or the compound of matter and form. To appreciate the issues Aristotle is raising here, we must briefly compare his treatment of the notion of a subject in the *Physics* with that in the *Categories*. In the *Categories*, Aristotle was concerned with subjects of predication: In the *Physics*, his concern is with subjects of change: But there is an obvious connection between these conceptions of a subject, since a subject of change must have one predicate belonging to it at one time that does not belong to it at another time. Subjects of change, that is, are also subjects of predication. The converse is not true: In the *Categories*, individual substances a man, a horse were treated as fundamental subjects of predication. They were also understood, indirectly, as subjects of change. These are changes in which substances move, or alter, or grow.

### 4: Toxic Substances Control Act of - Wikipedia

*As nouns the difference between subject and substance is that subject is (label) in a clause: the word or word group (usually a noun phrase) that is dealt with in active clauses with verbs denoting an action, the subject and the actor are usually the same while substance is.*

Traditionally, when we think of Spirit, we think of the third member of the Trinity or maybe we think of that which is internal to the human person. That is, that which makes us, well, us. For Philip Clayton Spirit takes on a broader sense, and with this chapter we begin to understand the meaning of the title of the book still under consideration on this blog – "Adventures in the Spirit: God, World, Divine Action Fortress," I apologize for the lengthy time that this is taking! What is interesting here is that Clayton seeks to root this theology of the Spirit in philosophy. This should come as no surprise to those who have read Clayton – he is a deeply philosophical theologian. If panentheism is an effective way of not only understanding God, but putting the gospel in terms that make sense in our day, then there is value in this project. To get a hold of this concept of panentheism, if I understand Clayton correctly, we must pay attention to post-foundationalism, which is a very postmodern philosophical position. My sense has been that Whiteheadian Process Thought was very much part of the Modernist program, so this would be a major departure. In modernist thought we start with a premise that there is one foundational set of truths, and then you build from there. In this chapter, in which Clayton begins to develop his theology of the Spirit, he suggests that we must move from substantivalism to spirit. Once again we have in mind the questions of the infinite and the finite. Thus, how can God interact with the world without somehow breaking natural law and becoming interventionist. With that in mind, making use of modern philosophical developments, he suggests that we move from substantivalism to spirit. Personhood is more than the physical, but includes the physical. This needs to be stated, lest we fall prey to reductionist views. If Clayton is advocating for panentheism, he also believes that it needs correcting. Our tendency is to say – "God is a mystery" – and leave it there. God is, in Barthian terms, wholly other, and known only by way of revelation in Jesus Christ. Barth was known for his dislike of natural theology. Clayton, on the other hand, wants to go in a different direction. He believes that God has broken down the dividing wall Eph. God is infinite, encompassing all things. But, God is more than the finite – the world. The Scriptures make it clear that there is a difference – there is a Creator! It is this Immanent Spirit, which humanity and God share. There is, he suggests a pericoretic relationship, a mutual penetration of the divine and the finite. There is both immanence and transcendence – two halves of a dialectical whole. Another idea to bring into this conversation is the imago dei image of God. Is God simply a projection, ala Feuerbach. That is, is God simply a matter of using divine language to talk about humanity. Or is it something different. Does our God talk, as ones who are created in the image of God, speak of a reality that transcends humanity? Here Clayton turns to Jurgen Moltmann, whom I had asked him to speak about. We know and experience God – something that is beyond proof – in our own human experience. Clayton concludes this discussion of the Spirit by making three points. First, this is a monistic perspective, for all that exists is part of God. It is also dualist, because there is a distinction between God and the universe – there is room for the other to exist. This final point leads to the next chapter, where Clayton, will, it appears, develop his understanding of the Trinity. This is my continuing contribution to the Transforming Theology --theo-blogging project.

1 | Page Chemicals Subject to TSCA Section 12(b) Export. Notification Requirements (March 30, ) All of the chemical substances appearing on this list are subject to the Toxic Substances Control Act (TSCA) section 12(b).

University of Texas at Austin Copyright: The author may or may not still agree with the views expressed in this paper. This confused usage stems from the different concerns of the two texts. The Categories proposes a ten-fold distinction in basic kinds of things. The distinction is reached by attention to language. Aristotle writes "Of things said without any combination, each signifies either substance or quality [or one of eight other things]" 1b Aristotle is focusing on a linguistic distinction between kinds of words. He presents no evidence for his ten-fold distinction other than the grammatical distinction between the ten kinds of words. Apparently, he believes that each kind of word corresponds to a kind of object. The number of kinds of objects equals the number of kinds of words. Each word is a member of a certain kind of word, and each object is a member of a certain kind of object. The words of kind one will all make reference to objects in kind one, words of kind two will all make reference to objects in kind two, and so forth. The kind which we will focus on is substance. In Categories 5, Aristotle defines substance as "that which is neither said of a subject nor in a subject" 2a This definition refers back to Categories 2, in which Aristotle had distinguished between four different kinds of words: Saying that "Bob is a man" is a different sort of thing from saying "Bob is black". We are tipped off to this by the necessity to include the indefinite article before the predicate in the former sentence. The indefinite article signifies the predication of an identity class-membership, rather than of a property, of the subject. An example of what is in but not said of a subject is "the individual white". For instance, the color of pages two and three of The Complete Works of Aristotle are the same, but each page has a different individual instance of that same color. Thus we might say that page two is white<sub>1</sub>, while page three is white<sub>2</sub>, even though white<sub>1</sub> and white<sub>2</sub> are instances of the same color. However, we lack terms for individual instances of whiteness in the natural language. Aristotle is thus claiming that substance is not a property of things. Aristotle does provide a positive characterization of things which are neither in nor said of a subject: The word which refers to substance always sits in the subject place in a sentence. In fact, this seems to be the mark of substance: The sign of substance, both primary and secondary, is the capacities of the words which refer to them. Thus the distinctions between primary and secondary substance and between both kinds of substances and other kinds of things are based on a classification derived from language, rather than an examination of phenomena. He writes that "It is based, not on an examination of substance, but on an examination of the words which refer to substances. Aristotle claims that "All the other things are either said of the primary substances as subjects or in them as subjects. Those things which are in the primary substances are their particular properties. It is unfortunate that Aristotle does not distinguish between substances and the words which refer to substances. Through failing to distinguish between things and words for things, he tends to equate words and their referents in a confusing manner, as in the above sentence which implicitly treats properties and words which refer to properties as both things. Thus usage suggests an ontological status for language which language does not possess. It may be this error that leads Aristotle to distinguish his categories along linguistic rather than phenomenal grounds. The first is that there are ten, rather than four, categories. In Categories 2, Aristotle distinguishes between four kinds of words: But in Categories 4, he announces his ten-fold distinction of kinds of things. The distinction between, say, being-in-a-position e. The second claim is that "It seems most distinctive of substance that what is numerically one and the same [i. Thus they do not change. Particular instantiations of properties cannot change while remaining what they are; if we repaint a green surface red, the green has ceased to be whether we regard it as having changed to the red or as having ceased to be in deference, we may say, to the red. Only substance can change while remaining the same; if we repaint a white room pink it is the same room as before, but has accepted a property contrary to one of its earlier properties. Aristotle did not learn this from attending to language, but the point does have a linguistic side. Here, Aristotle claims, based on the dialectical discussion of Metaphysics 7, that Aristotle discusses each of these in the first two chapters of book 8. However, whenever this occurs, the referent or combination is

replaced by another referent or combination. For example, if one were to take a skein of yarn and unwrap it only to sew it into a garment, one has destroyed the skein but produced a garment. The yarn itself remains in existence throughout the process of destruction and generation, and underlies both the skein and the garment. The yarn is the matter of both skein and garment, and it takes on alternating forms. Aristotle wishes to call the matter substance because he said of substance in the Categories that it admitted change over time. Matter does, we see, admit change over time, because it becomes the matter of different things over time. Likewise, allegedly, for form. Aristotle provides an example of form: These are the form and matter, respectively, of a house. Aristotle provides the additional example of stillness. Likewise, just as stones, bricks, and timbers could be made into something other than a covering for bodies and chattels - matter can take on different forms - a covering for bodies and chattels can be made of something other than stones bricks, and timbers. One kind of form can inform different kinds of matter, just as instances a kind of matter can be informed by different forms. Aristotle concludes that "It is obvious then, from what has been said, what sensible substance is and how it exists - one kind of it as matter, another as form or actuality The view seems to be as follows. Matter is substance because it can take on different forms. Thus, since form can inform different instances of matter, it must be substance, too. However, this argument is either faulty or makes a serious ontological commitment. Recall that matter is substance not only because it can take on different forms, but because it can take on different forms through time. If Aristotle wishes to make a parallel claim for form, he must defend the thesis that form can pass from one instance of matter to another through time. How might such a thesis be understood? Let us review several examples of form. Aristotle has said that the form of a house is shelter, while the form of still weather and a calm sea is absence of motion. In *De Anima*, he explains that soul is the form of the organism while body is the matter. Form, through these examples, appears to be structure or function. Shelter is the function of a house, and this function implies certain kinds of structure for a house. Living is the function of living beings, and thus the form or animating principle soul of living things is their function and causes their structure. Absence of motion is the physical organization of the matter of air or sea in virtue of which they are still. Thus it seems that form is the arrangement of the matter. When we consider how Aristotle deploys his notion of form in, for example, the *De Anima*, we can respect the notion as a substantial advance for scientific explanation. This theory is quite implausible. On the other hand, Democritus, as Aristotle observes, tends toward reductionism in his explanations of things b , which is, again, implausible. Aristotle follows Plato in recognizing the explanatory value of form, and follows Democritus in recognizing that only physical objects exist. He advances beyond them both, however, by showing how form can exist and thus possess its explanatory value in a world made up only of physical objects. However, this does not explain how form can change matter over time. Aristotle talks in several places about the transference of form. The sculptor has an idea of the sculpture which possesses its form and thus he can transfer that form into the marble. The father possesses the form of his species in his semen and thus can transfer that form into the menstrual blood. The senses take on the form of external objects without their matter. These cases are all cases of the form being transferred. But these cases do not involve some single instance of a form ceasing to inform one instance of matter and beginning to inform another. Rather, they are all cases of the form moving without the matter. Two possibilities occur at this point. One possibility is that there are single instances of forms, and these single instances can exist without matter; this is why they can be transferred without matter from one place to another. There are two reasons to reject this view. They have to do with the physiology of perception and reproduction. Second, we have discovered that form is the arrangement of matter. But there does not seem to be any way that an arrangement of things could exist without the things. We cannot have the skein without the yarn. The other possibility is that Aristotle does not believe that there are single instances of forms. Individual things are structured the way they are by deriving that structure from a form which structures many other things. Since a form can thus inform different ordinary substances over time, it can underlie change and be a substance. We can therefore reject the view that form is substance, because contrary to Aristotle, it cannot underlie change. Form, rather, is the arrangement of physical matter and does not exist other than as that arrangement. There was never any question but that ordinary physical objects would count as substances.

## 6: Substance Abuse - Subject Baseline

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He illustrates the various categories: To give a rough idea, ideas of substance are man, horse; of quantity: There is an important distinction pointed out by Aristotle between individual objects and kinds of individual objects. Thus, for some purposes, discussion of substance is a discussion about individuals, and for other purposes it is a discussion about universal concepts that designate specific kinds of such individuals. Thus Fido the dog is a primary substance—“an individual”—but dog or doghood is the secondary substance or substantial kind. Each arm of this distinction raises different issues. Aristotle was mainly, if not exclusively, concerned with questions of the first kind, but, as we shall see in sections 2. This association of substance with kinds carries over into a use of the term which is perhaps more scientific, especially chemical, than philosophical. This is the conception according to which substances are kinds of stuff. They are not individual objects nor kinds of individual object. Examples of this usage are water, hydrogen, copper, granite or ectoplasm. Atoms, fundamental kinds of stuff, gods, or abstract entities, such as Platonic Forms or numbers, might be considered to be substantial to the point of being indestructible or eternal: It seems, in summary, that there are at least six overlapping ideas that contribute to the philosophical concept of substance. Substances are typified as: We shall see later that the Kantian tradition adds a seventh mark of substance: It should be remarked in passing that at least one major expositor of Aristotle Irwin: This can be expressed as: The substances in a given system are those entities crucial from the teleological or design perspective of that system. Different philosophers emphasize different criteria from amongst this list, for reasons connected with their system as a whole. One could plausibly say that an account is intuitively more appealing, the more of the criteria it can find a place for. Probably, the Aristotelian tradition comes nearest to doing this. History of the philosophical debate on substance Almost all major philosophers have discussed the concept of substance and an attempt to cover all of this history would be unwieldy. The selection made will concentrate on those philosophers in whom the broadly analytic tradition has shown most interest. First we shall look at the development of the concept in the ancient world, culminating in the work of Aristotle. His account dominated debate through the Middle Ages and until the early modern period. We shall consider various rationalist and empiricist treatments of the concept. They thought, that is, that the being of the universe hence they were pursuing substance in sense i consisted in some kind or kinds of stuff. Thales, for example, thought that everything was essentially water, and Anaximenes that everything was a form of air. Atoms are objects in our ordinary sense, though they are not our ordinary objects: They are the subjects of predication, but they do not change their intrinsic properties. Classical atoms are, therefore, strong instances of i and ii, but somewhat deviant cases of iii and v. Plato rejected these materialist attempts to explain everything on the basis of that of which it was made. According to Plato, the governing principles were the intelligible Forms which material objects attempted to copy. These Forms are not substances in the sense of being either the stuff or the individuals or the kinds of individuals out of which all else is constructed. Rather they are the driving principles which give structure and purpose to everything else. In itself, the rest would be, at most, an unintelligible chaos. The Forms meet criterion i —“ontological basicness”—but in a slightly eccentric way, because they do not, in a normal sense, constitute things. They meet ii —“durability”—in a strong fashion, for they are eternal. They are not, in the intended senses, the subjects of predication, and in no sense the subjects of change, so they do badly on iii and iv. They do not do well on v for they are not individual things in any normal sense, though they are individuals, of a very unusual kind. They are in no way kinds of stuff, hence failing vi. It reflects his emphasis on criterion i, together with his particular view about the way in which forms are basic. These will be discussed in turn. The primary substances are individual objects, and they can be contrasted with everything else—“secondary substances and all other predicables”—because they are not predicable of or attributable to anything else. Thus, Fido is a primary substance, and dog—the secondary

substanceâ€”can be predicated of him. Fat, brown, and taller than Rover are also predicable of him, but in a rather different way from that in which dog is. The interpretation of these expressions is, as usually with Aristotelian cruxes, very controversial, but a useful way of looking at it is as follows. Dog is said of Fido because it characterizes him as a whole. Fat and the others are described as being in because they pick out a constituent feature that could be said to be, in a logical though not a physical sense, part of, or in him. Fido the individual is not attributable to any further thing at all. This account is intuitive, but perhaps it cannot be treated as a formally adequate definition of the notion of primary substance or individual. Fido the individual could be said to be in a certain location and so attributed to something, namely a place. It is natural to reply to this that an object is not an attribute of a place in the same way as a property is an attribute of a thing: Although this may be true, it presupposes that we already have a grasp on the sense in which properties belong to objects and how this differs from the various ways that objects belong to or can be attributed to things, and that we can call upon this informal understanding in interpreting the theoretical account. Whether this is legitimate might depend on what the objective was. If the objective were to explain the difference between substance and property in an entirely non-circular way by appealing to the fact that properties are in substances but substances are not in things, this would involve taking the notion of being in as primitive. If we have to distinguish the sense in which properties are in substances from the way in which substances can be in thingsâ€”such as placesâ€”before we can make the original point, then there has not been a non-circular account. If, on the other hand, the objective is simply to differentiate between concepts already in play, then Categories achieves its objective. If we understand his project in this way, we can see Aristotle as presenting various marks of substance in Categories. The marks of primary substance are: Being objects of predication but not being themselves predicable of anything else at least, not in the way entities in the other categories are: Being able to receive contraries. If substance did not exist it would be impossible for things in any of the other categories to exist. There could be no instances of properties if there were no substances to possess them. So we need marks for being a secondary substance, or substance concept. On this he says two things. For only they, of things predicated, reveal the primary substance. For if one is to say of the primary substance what it is, it will be more apt to give the species than the genus. The first is, however, once again intuitive but not compelling. Only in Section 3. The division between being said of and being inâ€”that is, between substance concepts and other propertiesâ€”seems intuitively clear enough until one remembers that substance concepts are complex and are definable in terms of other properties. Aristotle denies that this is so when they enter into the definition of a substance. The features that specifically make an object the kind of substance that it is, are called differentiae, and Aristotle says the differentia also is not in a subject. For footed and two-footed are said of man as subject, but are not in a subject; neither footed nor two-footed is in man. The issue is what constitutes the unity of the species or secondary substance: In order to begin to see how Aristotle tackled this problem we need the apparatus of form and matter, which does not appear in the Categories. We will see when discussing contemporary theories in section 3. This takes place mainly in Metaphysics, Book Z. In the latter, the analysis of substances in terms of form and matter is developed, whereas these notions have no place in Categories. Graham In the earlier, Categories, substances are simply individuals; in the later work they are complexes of form and matter. Whether this represents a change of view, or whether the purposes of the Categories simply did not require reference to the metaphysical analysis of substance is a moot point. Aristotle analyses substance in terms of form and matter. The form is what kind of thing the object is, and the matter is what it is made of. Relative to the human body, matter is flesh and blood. The matter of an axehead is the iron from which it is made. Aristotle acknowledges that there are three candidates for being called substance, and that all three are substance in some sense or to some degree. First, there is matter, second, form and third, the composite of form and matter. Aristotle acknowledges that matter can be a subject of predication and of change, thereby meeting one of the main criteria set up in Categories b35ff. Two of the criteria of substancehood presented in the Introduction above are: But, without seeming to give much argument, he strongly favours v over vi. The elimination of matter as a good candidate for being substance, leaves either form alone or the composite of form and matter. The composite seems more consonant with the doctrine of Categories, for the composite is the individual. Aristotle, however, chooses the form as more paradigmatically

substance. This has puzzled some commentators. The choice of form as substance causes perplexity because the form seems to be a universal and equivalent to the secondary substance, and so not the most fundamental case of substance. But whether substantial forms are universals in Aristotle is a controversial matter. Interpreters disagree about whether the doghood that is in Fido is best regarded as the universal, or as the particular instance of the universal doghood, other dogs exemplifying numerically different instances of the same universal. On this view, the most perspicuous way of regarding the individual substance is not as the composite of form and matter though this is not wrong but as the form individualized in the matter. The matter is still an essential component in the substance, but not, so to speak, as an equal partner with the form, but as the catalyst by means of which the form becomes an individual substance.

## 7: Aristotle's Metaphysics (Stanford Encyclopedia of Philosophy)

*AUTHOR'S NOTE* The present book is concerned with an analysis of Hegel's own rendering of the thrust of his system: The fundamental principle, he says in one of his Aphorisms, of a system of philosophy is its result.

Aristotle[ edit ] Aristotle used the term "substance" Greek: Primarily, however, he used it with regard to his category of substance, the specimen "this person" or "this horse" or individual, qua individual, who survives accidental change and in whom the essential properties inhere that define those universals. A substance is that which is called a substance most strictly, primarily, and most of all is that which is neither said of a subject nor in a subject, e. The species in which the things primarily called substances are, are called secondary substances, as also are the genera of these species. For example, the individual man belongs in a species, man, and animal is a genus of the species; so these both man and animal are called secondary substances. Ackrill In chapter 6 of book I the Physics Aristotle argues that any change must be analysed in reference to the property of an invariant subject: Thus, in his hylomorphic account of change, matter serves as a relative substratum of transformation, i. Examples of such a substantial change include not only conception and dying, but also metabolism, e. On the other hand, in accidental change, because the essential property remains unchanged, by identifying the substance with its formal essence, substance may thereby serve as the relative subject matter or property-bearer of change in a qualified sense i. An example of this sort of accidental change is a change of color or size: There is no prime matter or pure elements, there is always a mixture: This section does not cite any sources. Please help improve this section by adding citations to reliable sources. Unsourced material may be challenged and removed. December See also: Stoic categories The Stoics rejected the idea that incorporeal beings inhere in matter, as taught by Plato. They believed that all being is corporeal infused with a creative fire called pneuma. Neoplatonism[ edit ] Neoplatonists argue that beneath the surface phenomena that present themselves to our senses are three higher spiritual principles or hypostases, each one more sublime than the preceding. Therefore, only God is a substance in this strict sense. However, he extends the term to created things, which need only the concurrence of God to exist. He maintained that two of these are mind and body, each being distinct from the other in their attributes and therefore in their essence, and neither needing the other in order to exist. Substance, according to Spinoza, is one and indivisible, but has multiple "attributes". He regards an attribute, though, as "what we conceive as constituting the [single] essence of substance". The single essence of one substance can be conceived of as material and also, consistently, as mental. What is ordinarily called the natural world, together with all the individuals in it, is immanent in God: John Locke views substance through a corpuscularian lens where it exhibits two types of qualities which both stem from a source. But, according to Locke, an object exists in its primary qualities, no matter whether the human perceives it or not; it just exists. For example, an apple has qualities or properties that determine its existence apart from human perception of it, such as its mass or texture. The molecular combination of atoms in first essence then forms the solid base that humans can perceive and add qualities to describe - the only way humans can possibly begin to perceive an object. The way to perceive the qualities of an apple is from the combination of the primary qualities to form the secondary qualities. In particular, neither "power", nor "qualities" can grammatically serve as the referent of "itself". Please help us clarify the article. There might be a discussion about this on the talk page. June Learn how and when to remove this template message and other objects. The corpuscularian hypothesis, by[ vague ] Robert Boyle, states that "all material bodies are composites of ultimately small[ vague ] particles of matter" that "have the same material qualities[ vague ] as the larger composite bodies do". With these qualities, people can achieve the object through bringing "co-existing powers and sensible qualities to a common ground for explanation". The idea that we have, to which we give the general name substance, being nothing but the supposed, but unknown, support of those qualities we find existing, which we imagine cannot subsist sine re substante, without something to support them, we call that support substantia; which, according to the true import of the word, is, in plain English, standing under or upholding. These qualities rush to our minds which must organize them. As a result, it creates a substratum for each object to which it groups related qualities. Noumenon and Phenomenon Two

irreducible concepts encountered in substance theory are the bare particular and inherence. Bare particular[ edit ] In substance theory, a bare particular of an object is the element without which the object would not exist, that is, its substance, which exists independently from its properties, even if it is impossible for it to lack properties entirely. It is "bare" because it is considered without its properties and "particular" because it is not abstract. The properties that the substance has are said to inhere in the substance. Inherence[ edit ] Another primitive concept in substance theory is the inherence of properties within a substance. For example, in the sentence, "The apple is red" substance theory says that red inheres in the apple. The inverse relation is participation. Thus in the example above, just as red inheres in the apple, so the apple participates in red. Arguments supporting the theory[ edit ] Two common arguments supporting substance theory are the argument from grammar and the argument from conception. Argument from grammar[ edit ] The argument from grammar uses traditional grammar to support substance theory. For example, the sentence "Snow is white" contains a grammatical subject "snow" and the predicate "is white", thereby asserting snow is white. The argument holds that it makes no grammatical sense to speak of "whiteness" disembodied, without asserting that snow or something else is white. Meaningful assertions are formed by virtue of a grammatical subject, of which properties may be predicated, and in substance theory, such assertions are made with regard to a substance. Bundle theory rejects the argument from grammar on the basis that a grammatical subject does not necessarily refer to a metaphysical subject. Bundle theory, for example, maintains that the grammatical subject of statement refers to its properties. For example, a bundle theorist understands the grammatical subject of the sentence, "Snow is white", to be a bundle of properties such as white. Accordingly, one can make meaningful statements about bodies without referring to substances. Argument from conception[ edit ] Another argument for the substance theory is the argument from conception. According to the argument, one cannot conceive of redness, or any other property, distinct from the substance that has that property. Criticism[ edit ] The idea of substance was famously critiqued by David Hume , [18] [ citation needed ] who held that since substance cannot be perceived, it should not be assumed to exist. But the claim that substance cannot be perceived is neither clear nor obvious, and neither is the implication obvious. For Habermas, only a subjective form of liberty could be conceived, to the contrary of Deleuze who talks about "a life", as an impersonal and immanent form of liberty. For Heidegger, Descartes means by "substance" that by which "we can understand nothing else than an entity which is in such a way that it need no other entity in order to be. Heidegger showed the inextricable relationship between the concept of substance and of subject, which explains why, instead of talking about "man" or "humankind", he speaks about the Dasein , which is not a simple subject, nor a substance. Necessarily, for any concrete entity, a.

### 8: Substance theory - Wikipedia

*I've been working on my summation of this chapter for several days, but since it has to do with the Spirit, perhaps its appropriate that I release it on Pentecost Sunday! Traditionally, when we think of Spirit, we think of the third member of the Trinity or maybe we think of that which is internal.*

A mixture can be separated using physical processes. A mixture is a combination of substances. What is the difference between the properties of a substance and the properties of an object? The properties of a substance are inherent in that substance, for example steel, but steel can be used to make all sorts of different objects. Each object has its own properties, but the basic property of steel is the same in all of them for the same grade of steel. A pure substance is one element. But substances can be different. They can be unpure or pure substance. What is the difference between a substance and mixture? A substance is a type of matter with uniform properties, where as a mixture is a type of substance that can be made by mixing a variety of substances together. There are two types of mixtures - homogeneous and heterogeneous. What is the difference between an objection based on the form of the question and an objection based upon the substance of the question? As to form, think of it as "how" is the question asked. As to substance, think of it as "what" information is the question seeking. Some questions are asked in a manner that is not allowed in court, such as "leading questions. The objection will be as to the form of the question. Some questions seek testimony that does not have to be given, such as privileged information. That kind of question might be legitimately phrased but seeking testimony that according to evidence rules the witness does not have to provide. That objection will be as to the substance of the question. In biology it may be force of adhesion. H<sub>2</sub>O is a matter. This matter can come in the substance of ice, water or steam. A substance is equivalent to one compound, with a defined chemical formula. A mixture is a What is the difference between a chemical and a substance? A substance is matter that is uniform in composition. A substance can be an element or compound. A solution is another name for a homogeneous mixture. It is also uniform in composition, but a solution is made by physically combining two or more substances.

### 9: Commitment to Privacy - Virginia Commonwealth University

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The purpose of this Act is to protect public health and the environment through these provisions: Registration of chemical Substances; Screening of hazardous chemical substances; Hazard and risk assessment of products containing chemical substances and hazardous substances; Sharing information of chemical substance. The Ministry of Environment MoE is responsible for the registration and evaluation of chemical substance under this Act. K-REACH focuses on registration and evaluation of substance while CCA focuses on the control of hazardous substance and response to chemical accidents. We hope they are helpful to your team and your businesses. The summary can be accessed here. New chemical substances; Existing substances manufactured, imported or sold more than 1 ton per annum. The following substances are exempt from annual report: Companies shall fulfill annual reporting obligations before and after registration. Non-Korea manufacturers can appoint an only representative Korea-based to fulfill annual report obligations. Polymer is also subject to annual reporting requirements as a substance. Registration Manufacturers or importers in Korea shall register the follow substances: New chemical substances; Designated existing substances manufactured, imported or sold more than 1 ton per annum. New substances shall be registered prior to production or importation. Designated existing substances shall be registered within a given grace period Max. The qualification of an only representative and the list of designated existing substances are to be decided by MoE. Chemical substances imported as incorporated in machines; Chemical substances imported along with machines or devices for testing; Substance contained in a product in a solid form to perform a certain function without being released during normal use. Chemical substance manufactured or imported less than 10 tons per year and exported in its entirety. Definition of New Substances A new substance is defined as a substance that is not on the following lists: Chemical substances which were placed on Korean market before Feb. Information Required for Registration The following information is required for registration: The name, address and representative of a manufacturer or an importer or an only representative; Information that identifies a chemical substance including its name, molecular formula and graphic formula; Identified uses of the chemical substance; Classification and labeling of the chemical substance; Physical and chemical properties; Hazard data tox. Please note that the deadlines of risk assessment are separated from the deadlines of registration. For some new substances and designated existing substances i. Detailed rules are not published yet. Deadlines of Registration Deadlines of registration for designated existing substances are to be set by MOE. The MOE will designate existing substances to be registered in three lists based on: Chemical substance circulation in Korea;and Results of hazard assessment and risk assessment. The first list is expected to be announced at the end of Deadlines of Risk Assessment Report Risk assessment shall be conducted if a chemical substance is: Manufactured or imported in 10 tons or more per year; or Deemed as one requiring risk assessment after hazard assessment. If necessary, the MOE may request additional data for the risk assessment. The deadlines of submitting risk assessment report depend on annual tonnage and they are listed as follows: Based on the result of hazard assessment and risk assessment, substances may be put into the following categories after evaluation: Supply Chain Communication Anyone who transfers a registered chemical substance or preparation containing the substance shall provide the following information to downstream users: It shall be noted that: This shall be done within 1 month since the change has been found. There are two requirements for products: An article that does contain any substance intended to be released under normal conditions of use is excluded from reporting. Any product may be produced or imported as set out in the Environment Ministerial Decree without reporting because: Exposure to human beings or environment can be avoided under normal conditions of use; or The chemical substance has been registered for that use. However, an application of exemption needs to be submitted to MoE for above two cases. A potentially risky product means a chemical product listed by the Ministry of Environment after consultation with the head of the relevant central authorities as one deemed potentially hazardous to people or the

environment, including, but not limited to: A product used by consumers on their daily lives such as a detergent, an air freshener, an adhesive, a polisher, a deodorant, a bleach or a fabric softener. A product used to kill, interrupt or immobilize harmful organisms except for human beings and animals such as an insect repellent, a sanitizer or a preservative. After risk assessment, the MoE shall establish safety and labelling standards for risk-concerned products. The safety and labelling standards shall specify, for example, hazardous chemical substances that cannot be used in a certain product and the content, yield or evaporation of hazardous chemical substances contained in the article. Once safety and marking standards have been published, MoE can take actions sales ban or recall against: We help them find out how their chemicals are regulated in those countries or regions and offer free initial consultations about how to comply. If notification is required, we help them submit chemical registrations. We also prepare or translate GHS compliant SDS and label in accordance with their national chemical legislation at affordable prices. If you have any questions about chemical compliance in the Asia-pacific region, please contact:

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