Spinoza's Geometric (Axiomatic) Form

- Spinoza begins with a list of definitions of terms and fundamental axioms
- Spinoza then derives a series of propositions that logically follow from his definitions and axioms

Spinoza's Monism

- Spinoza believes that everything is one thing substance. He equates substance with God and Nature.
- Substance has all (infinite, a complete set of) attributes.
- Individual things are "pieces" of substance with attributes of those things.

Defining Some Terms

- Definition 1: "By that which is self-caused I mean that whose essence involves existence; or that whose nature can be conceived of only as existing." (1D1).
 - Or, something is self-caused if the idea of it necessarily implies that it exists.
- Definition 2: "A thing is said to be finite in its own kind... when it can be limited by another thing of the same nature. For example, a body is said to be finite because we can always conceive of another body greater than it. So, too, a thought is limited by another thought. But body is not limited by thought, nor thought by body." (1D2).
- Definition 3: "By substance I mean that which is in itself and is conceived through itself; that is, that the conception of which does not require the conception of another thing from which it has to be formed." (1D3).
 - Substance is independent of an external cause.
- Definition 4: "By attribute I mean that which the intellect perceives of substance as constituting its essence." (1D4).
 - For example, having two wheels is an attribute of a bicycle; a bicycle, by its essence, must necessarily have two wheels, or it is not a bicycle.
- Definition 5: "By mode I mean the affections of substance, that is, that which is in something else and is conceived through something else." (1D5).
 - Modes can be thought of as characteristics of substance that are subject to time and to change, such as the redness of a bicycle – the bicycle could be repainted yellow and still retain its status as a bicycle.
- Definition 6: "By God I mean an absolutely infinite being, that is, substance consisting of infinite attributes, each of which expresses eternal and infinite essence." (1D6).

Defining Some Axioms

- Axiom 1: "All things that are, are either in themselves or in something else."
- Axiom 6: "A true idea must agree with that of which it is the idea."
- Axiom 7: "If a thing can be conceived as not existing, its essence does not involve existence."

Establishing that Substance Exists

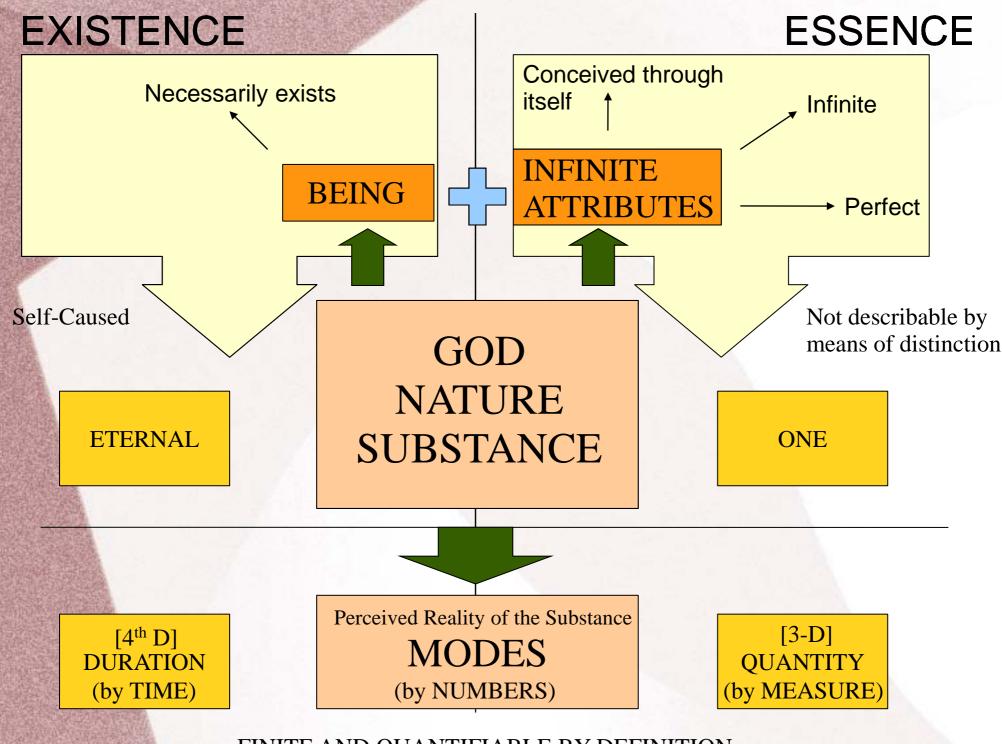
- To establish that substance exists, Spinoza begins with his definition of "substance" "that which is in itself and is conceived through itself." (1D3). He then continues with the claim that that which has an *external* cause is not in itself and is not conceived through itself. Therefore, substance has no external cause and must have caused itself.
- By Spinoza's definition of self-caused, anything that is selfcaused must exist. "By that which is self-caused I mean that whose essence involves existence; or that whose nature can be conceived only as existing." (1D1).
- Therefore, substance, being self-caused, exists. (1Pr.7).

Establishing that Substance is Infinite

- As established above, substance exists and is its own cause. (1Pr.7).
- By Spinoza's definition of finitude, a finite thing has other things that limit it. (1D2). For substance to be finite, "it would have to be limited by another substance of the same nature, and that substance also would have to exist (1Pr.7)." But Proposition 5 states that "in the universe there cannot be two or more substances of the same nature or attribute." (1Pr.5). This argument is a *reductio ad absurdum*; assuming substance to be finite contradicts an already established proposition.
- Therefore, substance must be infinite.
- In Proposition 10, Spinoza also makes the claim that an infinite substance must consist of infinite (or all; a complete set of) attributes. "...An absolutely infinite entity must necessarily be defined (1D6) as an entity consisting of infinite attributes, each of which expresses a definite essence, eternal and infinite." (1Pr.10). This is evident by Spinoza's definition of God as "an absolutely infinite being, that is, substance consisting of infinite attributes, each of which expresses eternal and infinite essence." (1Def.6).
 - Proposition 5 is derived from Pr. 4, Pr. 1, Def. 3 and Ax.6. Pr. 1 is in turn derived from Defs. 3 and 5, while Pr. 4 is in turn derived from Ax. 1 and Defs. 3, 4 and 5.

Establishing that There is Only One Substance

- Thus far, we have established that substance exists, is infinite, and has all attributes.
- "In the universe, there cannot be two or more substances of the same nature or attribute." (1Pr.5). Because substance has *all* attributes, at most one substance exists. But we have already established that substance exists. (1Pr.7).
- Therefore, there must be only one substance. By Spinoza's definition of God, substance can be equated with God. (1D6).



FINITE AND QUANTIFIABLE BY DEFINITION