

Study Guide I: Chaos, Cosmos, and *Logos*

LART602

Prof. Oakes

Winthrop University

The Search for Order: The Rational Eye

I. Introduction

For Class, Tuesday, 8/20/13:

I. Chaos, Cosmos, and Logos

A. Introductions

B. Discussion Questions

- a. To what extent is the world rationally ordered (“logical”)? (Examples? Is “God” a principle of rational world order?)
- b. To what extent is the world not rationally ordered – i.e., chaotic (“illogical”)?
- c. To what extent, if any, is rational world order a result of human activity?
- d. To what extent, if any, is it possible for humans to know whether the world is rationally ordered? How is such knowledge possible, if at all?
- e. What is the significance, if any, of rational world order, if any?

C. Some Terminology (see below)

D. Syllabus

The following notes and terminology provide basic information about key course concepts.

Notes on Logic

- When humans speak of rational world¹ order, we speak primarily of what we understand as the *logical*. We speak of actions or decisions as being logical: “her decision to postpone legal action was a logical one.” We speak of states of affairs or situations as being logical or as admitting of logical analysis or inquiry: “the library’s design wasn’t very logical;” “there must be a logical explanation for the instability of the isotope.” To speak of a rational world order is to speak of these things and of all else that may admit of such description. Our questions are these:
 - A. Just what is it that we refer to when we speak of the logical, either in ourselves, in our own actions, or in the states and processes of the world around us?
 - B. To what extent is the world that we live in, including ourselves as well as all that is not strictly related to us, a rational world order?
- Here, I want briefly to address question (A). Notice the root of logic as it is found in our thought and language, both in themselves and as they enable us to talk about us and the world around us. The logical is for us primarily a matter of *words*, their relationships,

¹ Here and throughout, I use the terms ‘world’ and ‘universe’ interchangeably as terms referring to the whole of existence. To ask about the world, or universe, is to ask about reality, all things that exist, taken as a whole. To ask, is the universe (world) ordered, is to ask whether there is order to be found anywhere in reality.

and the thoughts that these enable us to express.² The exact relationship between logic, our words and thoughts, and the world around us is a profound and controversial issue. However, notice simply for the present that to call a thing logical is for us to be able to apply *some word* or *words* to it and then to be able to *link or associate* those words with others.³ To say that the logical, and thus the rational, is a matter of words is to call attention to this basic point: logic is rooted for us in words and their structures and structural relationships.

- A partial answer to question (A) then is this: when referring to the logical *in us*, we refer to our words and their interrelationships. This raises the question of the second part of question (A), namely, the logical in the world around us: to what do we refer, exactly, when we speak of the logical in, say, the natural order? Given our definition of the logical in terms of words and word-structures, what *in the non-human world* do we refer to when we speak of logic and rationality. Our answer, presumably, is essentially the same thing, words and their structures – but this point must be approached with some care, since we don't ordinarily think of words as existing outside of us (and our books, etc.). The point is an abstract one.
 - o The basic idea, here, is that if logic is a matter of words and their structures, then to say that the world is logical is to say that it is itself “wordy” and “word-structured” in some basic sense. More broadly, one might say, whatever it is that makes our thought logical must be located in the world outside of us if that world is to be said also to be logical. And if it turns out that it is words and their structures that constitute the logical, then it must be those same things that constitute the logical outside of us.
 - o Here's an example. Newton's formula for the force of gravity (F) is as follows:

$$F = gm_1m_2/r^2$$

As a mathematical expression, this formula is simple: it consists in the product of g, m₁, and m₂ divided by the square of r. What is striking for our purposes is that this very formula, a simple mathematical thought might be said to be characteristic of a physical reality existing quite outside of our heads. To say that the world is a rational order is to say that it has exactly the same logical form as certain contents of the human mind.

- o Today, we are so accustomed to this idea that we take it for granted and so fail to appreciate its significance. You should think about this: certain simple but highly formal mental constructions have the exact same form as certain non-mental, physical features of the world. This correspondence constitutes the rationalist paradigm of human knowledge: knowing formulas such as Newton's, we can know the rational nature of the world around us.
- There are other accounts of logic, but this one will serve our purpose of helping to formulate the central questions of the course, chief among which is question (B). What are the words that reveal to us the order of the universe? Are there any such words? Is every portion of the universe such that there is a word and word-structure describing it? Are some portions or features of the universe without or beyond our words? In this

² This point may also be expressed in terms of concepts and conceptual structure.

³ Words have meanings in virtue of which they refer to the world around us, and these meanings also determine how one word may be related to another. Given what the word ‘badger’ means, it refers to a certain beast in the world; and given what the word ‘dolphin’ means, these two terms are logically related by class-membership: badgers and dolphins are both mammals.

course, I will encourage you to find and articulate the words defining the rational structure of the world, or to indicate the extent to which such words are not to be found.

Terminology

Here are some terms that we will use to speak of rational world order and its logic.

Chaos: being without order (from the Greek *khaos* meaning abyss or void). Anything that exists and lacks order is *chaotic*, in this sense. A pile of leaves is a chaos, for example, as is a sock-drawer, for most of us, to a certain extent.

Cosmos: ordered being (from the Greek *kosmos* meaning an orderly arrangement; also adornment – cf. ‘cosmetic’, which shares this root). Our solar system is relatively orderly, making it a cosmos – one organized by the logic of the law of gravity.

Logos (pl. *logoi*): literally, “the word” – an account or theory or concept or idea or reason. Where a cosmos is logical – where its principle of order is logical – some *logos* or *logoi* define that logical order. (See further the Notes on Logic, above.)

Cosmology: literally, the word of ordered being – i.e., the study or pursuit of principles defining order in the universe (if any)

Reason: Reason is that human faculty by means of which we manipulate logical forms or objects. Where our concepts have logical form, reason enables us to perform certain operations on them. Here are two examples, a deductive inference and an arithmetical sum:

1. All humans are mortal. $2 + 2 = 4$
2. Socrates is a human.
3. So, Socrates is mortal.

Rationalism⁴ is the view according to which the world around us is understandable in rational terms – i.e., logical terms, *logoi* – words, concepts, ideas – where:

- (a) the extent to which the world is *logical*, i.e., to which our words or ideas express the nature of all things tends to the *maximal* (as opposed to the *arbitrary* or *illogical*, where no *logos* can be put to a given state or event; thus, *chaos*, as far as we are concerned);
- (b) the world tends to be *systematic*, meaning that the more general principles governing the world are relatively few in number (i.e., an *economical* or relatively *simple* set of basic principles) and that the *relationships* among the basic principles are themselves relatively clear or definable (i.e., *logical*);
- (c) these “words” or principles – the truths of the universe generally – are at least in principle *knowable* by application of the *natural* human means of acquiring knowledge, sense and/or reason; in other words, the world is open to investigation by a *critical* method, wherein assumptions are challenged and should be otherwise justified by reference to sense information or rational thought. Note that the supposition of logic and systematicity encourages the pursuit of truth by the critical examination of prior truths.

⁴ Unfortunately, we will also have a second use of this term. Within rationalism as defined here, we also encounter a split as between those philosophers who favor sense and those who favor reason as the primary source of human knowledge. Rationalists, in this sense, are those who identify reason as the primary source of human knowledge, while empiricists are those identifying sensation as occupying this role. We thus have two forms of rationalism in the broader sense defined here, where the two forms, rationalism and empiricism differ on the interpretation of the knowability criterion, (c). Ordinarily, in this course, I will mean rationalism in the broader sense unless otherwise indicated.

- Argumentation: a primary means of satisfying this criterion is by *arguing* for the truth of one's claims, as opposed to merely asserting one's claims, dogmatically. Arguments must conform to standards of induction or deduction.
- Dialectic: a particular form of argumentation takes the form of thesis, antithesis, synthesis, usually as between two or more theorists. I.e., one theorist asserts a claim or theory (thesis); a second finds fault with it (antithesis), and thereby formulates a further claim or theory (synthesis). By this means, progress is achieved across generations of thinkers.