Complementarity

Niels Bohr gave us the model of the atom as having a central nucleus around which electrons were circulating in stable orbits. He also gave us the complementarity principle that states that the mutually exclusive wave and corpuscular nature of light were not merely contradictory but complementary descriptions. Field theory considers light as a continuous wave phenomenon with a wavelength and frequency, while quantum theory considers its corpuscular nature as a discrete packet of energy called a photon. Thus we actually have an opposition of a continuous-discontinuous description concerning the fundamental nature of light. In line with what we have been discussing about the nature of reality as having an intrinsic polar nature, we have yet another confirmation at even the atomic level of investigation. This harks back to Kant’s “Critique of Pure Reason” where in his second antinomy he tried to show that the continuous and discontinuous descriptions of the cosmos were both possible although they were mutually exclusive of each other. Kant tried to demonstrate that this was a limitation of the way we think about the world, i.e. a defect of reason since the world is obviously content to go on as a single reality regardless of how we understand it. But we are showing here that our understanding of the world does not have to be antagonistic to it if we understand it properly. For Kant, opposites merely exclude one another. We are claiming that not only do they exclude each other but also they depend upon each other for either to exist at all.

Although we started out with a broad concept of distinct and inseparable elements, we are now able to narrow this down to a more specific principle. All of the instances we have discussed so far involved a specific kind of distinction, namely, opposites. Distinction may be related to things that are not opposites. For instance, a pencil is not an elephant. Non-opposing distinctions like this are called mere varieties and not oppositions. Such varieties have a unity that is much more complex than the simple polarity we are investigating. Distinct opposites are therefore the specific inseparable unities that we are actually concerned with. This requires that we have to look more at the concept of things rather than the things themselves in order to understand their opposition. It would be hard to understand the opposite of a pencil if we looked around to find out which of the various items in our room would correspond to that. The concept of pencil, however, would indicate to us that it is a writing instrument. The associated object of writing is what is written. And this would certainly be the negation of the pencil, even tangibly, especially if you did a lot of writing!

What we are trying to convey here is that it is the CONCEPT of things that is the main principle we have been discussing in all of the examples mentioned so far. Subject and object are general concepts, and although they may refer to specific things such as an individual person as subject and a particular object of the world they are nonetheless concepts that can in general refer to any individual or any object. Thus a concept is a universal or thought. But this would be a one-sided view of the concept – wouldn’t it? If we considered the concept only in its universality we would be guilty of neglecting its necessary opposite – the particular. It is here that we can see the power and the difficulty that the consistent application of polarity presents us with. Thinking wants to rest on one’s hard-earned conclusions and stop there and relish its victory. But in our newfound polar reality that will not be possible. We can not be satisfied until we have a complete, well-rounded understanding. A half circle will not do, we have to come full circle and consider all the sides.

Finally, before we get to the scientific considerations of all this, we will mention the inseparable distinction between knowledge and what is known. This will be especially important in our discussion of the Phenomenology. Knowledge cannot exist independently of what is known, and the known is not independent of our knowledge of it. This simple point is often overlooked, especially in understanding the relation of knowledge to the Absolute Truth.

Everything is contradictory.

Opposites are clearly distinct entities or concepts for us, but it may not be so clear why they are inseparably related to one another. Logically speaking, one is the negation of the other. Thus night is not day, subject is not object, etc. And this negation is mutual, so that in general if we say that A is not B, then B is not A is true as well. Before we can say anything about differences between A and B, however, we want to know what A is itself. All we know about A is that it is A, or A = A. If we look carefully at what we just said (or wrote) we just introduced a distinction in A. First of all we mentioned “what we know about A” and secondly we said “it is A.” To “know” A implies that there is A and there is our knowing about it. This means the knowledge of A and the A itself which is known are distinct from each other. The statement “it is A” implies that we come upon an indeterminate “it” and determine it to be A. We mean to express an identity but we introduce distinction. This is also true when we state A = A. First of all, to talk about equality means that comparison is involved. We
have to have at least two things to determine whether they are equal or not. So what two things are being compared when we say A = A? Basically what we are saying is this: this thing that we call A or name A, corresponds with what we mean by A. Thus it is really a relation of the being of A with the thought of A.

Certainly this is very abstract, so let's bring it into practical perspective. If someone asked you to identify yourself, what would you do? You can't just say, I am I, when you want to prove your identity to someone outside yourself. Even within yourself you are making a distinction. The "I am" part implies the being of yourself, and the last I implies the part of you that is aware of that being of yourself, and the whole statement is the fact that they are equal to each other. But for others some document or something different from yourself needs to be presented. In either case difference is involved in establishing identity.

In general, propositions are in the form: Subject is predicate. Thus in the proposition "Man is mortal," Man is the subject and mortal is the predicate. The predicate describes the subject in some specific way. The predicate can thus also be called a determination of the subject. For example, "the table is green" means that we have determined the color of the table as being green. We may also determine it as being hard, or smooth, etc. Determination is a word that is often found in Hegel's books, so we want to have a clear idea of what this word implies. A "termination" means an end or negation. Thus to terminate a project means to stop or put an end to it. The termination of a table would be the edge of it, etc. In this sense, termination can also mean limit, or where a thing ends. If we draw a square, the outside lines are the limit of the square or where the square is not. In that sense the limit is the negation of the square, or termination of it. In the same sense "determination" is a termination, limit or negation of something. Thus to determine that the table is green is to limit the table to that particular color out of all the possible colors. In that case it is likewise a negation of all other colors except green. In fact to call an object a table is in this sense to determine it as a table or to negate all other possible objects in the universe besides table. So when we come upon an object and ask, "What is it," the indeterminate "it" which may be anything (because it is at first undetermined) must be determined. In other words, all other possibilities except one must be negated, to say, "It is a table." The indeterminate "it" is negated as indeterminate to become the determinate, in this case, table.

This is an important point, because what we are saying here is that the complete whole is being negated in order to establish a part of it as a whole. The complete whole contains the table as one of its parts. To extract that part from the whole and "see" it as a whole in itself requires negation of the greater whole. This is something cognitive psychologists deal with everyday, and which philosophers forget everyday. It is not only the positive presence of an object that is to be understood, but the negation of the whole is also an essential part of every object. As a "part" an entity has a being that is FOR the whole that it is part of. In other words its being is not considered separately from that of the being of the complete whole. When this entity or part is considered apart from the complete whole, as a whole in itself, then its being in itself is to be apprehended. Thus being in itself refers to determinate being. We have to terminate the continuity of the specific part within the unity of the complete whole in order to separate it out or extract it for consideration as a whole itself. This is determination or negation of the part's connection to the complete whole. However, we must note that the complete whole does not thereby suffer a diminution by this extraction. In other words, although determination may be likened to a cutting out of, say a table, from the complete whole, it is not that a hole is left in the complete whole where the table was. The complete whole remains as it was with the part in tact, for this is the meaning of the COMPLETE whole.

Being in itself, or determinate being, is being that has been cut off from its unity with the complete whole. Because it is limited or negated, i.e. terminates at specific boundaries, it is finite. In order for the part to be considered a whole in itself, the complete whole of which it is a part has to be negated. So we can say that the part negates the complete whole. At the same time, however, the complete whole also negates the part since they are different from each other. When the complete whole negates the part, the part becomes transformed into a whole itself. When the part negates the complete whole, the complete whole remains as it was before the negation, complete in itself. So we have a case where there is reciprocal negation but the results in each case are fundamentally different. In negating the part a transformation occurs, while in negating the complete whole we get the complete whole back again. Negation should produce something different or contrary to what was negated, however, in the case of the complete whole the negation or what is other than (or if we think spatially – "outside") the complete whole is the same as the original complete whole. When we try to go "outside" of something but find the same thing there as "inside" have we really gone outside at all? Such a situation in which we find the same thing inside as outside, in which the other is the same thing as that which it is other to is called the infinite, or literally non-finite. The infinite is non-finite because there are no boundaries, no limits, no place where it is not or where it is finished, finite or fini – ended. At the same time it does not thereby exclude negation. It is rather negation that establishes it as infinite, because it is only by negation that we apprehend that the infinite is indeed infinite or that which becomes other to itself and yet remains itself in such "othering." This means that the other or negation is present in the infinite. If we think about this carefully, it also means that the finite is present in the infinite, because other implies distinction, and distinction implies definite boundaries or finitude. This, however, should not be confusing to us because if we remember the polar nature of reality that we first discussed, the infinite and finite cannot exist independently from one another if either is to make sense. They must be interpenetrating and interdependent as we are seeing here at a more detailed level of investigation. There is still a deeper level yet, but we will get to that.

It seems like we would have to do a lot of work simply to say, "It is a table!" Perhaps you will never look at "it" in quite the same way again. Logically, negation of the complete whole is what is implied. Practically speaking, if you asked someone to pick up a cup, they would have to be
able to distinguish the cup from the table, or know that the cup was not the table, or not the picture on the wall, etc. So practically we also have to negate the environment around that particular object upon which we are focused. Focusing is not only a positive activity; it is also a negative or negating activity. So determination is negation. This was Spinoza’s dictum: “determinatio negatio est.” It will be important when reading Hegel to keep in mind this connection between determination and negation.

Now that we know that determination or limit means negation, we can understand distinction or difference as negation. To state that A is different from B means that A is not B, and that B is not A. One is related to the negation of the other, and this is what we mean by difference. Since we have seen that A = A implies a distinction within itself, this distinction implies that a negation is involved. If the cup is different from the table, then the cup is not the table, and likewise the table is not the cup. This “not” is the negation. In the case of an identity, a cup is a cup, means that any cup that “is” there fits the thought we have of cup. The distinction here is between the being of a cup and the thought of the cup. In other words, one is the negation of the other. Within identity there is difference. Both A and not A are found within A. This distinction is based on the way we think about an identity. We distinguish between the being and the thought of A. Furthermore, we distinguish being from thought, and this distinction involves a negation. Thought is the negation of being. Being is the negation of thought. Although we will eventually learn that being is the barest and most abstract of concepts, at the immediate level we are considering here, being implies something of substantial significance to us. Thought on the other hand, seems quite the contrary – to be very insubstantial – only a thought. If being is to imply what has substantiality and bulk, something that is found in space and time, then thought is that which is quite ephemeral and without substance and cannot be found anywhere in space and time. In this sense thought and being are quite distinct from each other. This distinction is their negation. Thus thought is the negation of being.

We don’t generally think of thought as being the negation of things. Yet the thought of a thing and the thing itself are distinct and quite contrary to one another, even though we consider them to be identical. Thus when I am driving down the road and I see a red traffic light, I don’t make a distinction between the thought of the red traffic light and the actual traffic light. In general, although everything in our lives involves this difference we don’t usually make anything of this difference. It is only when we start thinking about things philosophically that the difference may come to our attention. Of course there are other instances when this distinction may be important. If we walked into a dark room and stepped on a rope but thought it was a snake, the difference between the thought and thing would become apparent to us. We may think the sun to be a small disc moving in the sky, but more careful thought would reveal something quite different. So we have to agree that thought and things are different, despite our tendency to ignore that difference in ordinary life.

Thought is the negation of being.

Therefore, thought is the negation of being, and knowing is also the negation of what is known. The word “know” sounds just like the word “no” in English. To know something is to “no” it, or negate it. We generally think that we have gained something positive through knowing, but actually we have negated what is known. At the same time we have gained something – knowledge. A positive has been produced out of a negative. And this is an important principle about negation. Negation doesn’t mean annihilation. If thought is the negation of being then that thought is not nothing. Just as day is the negation of night does not mean that night is nothing. During the day, night is certainly absent or totally negated. But this non-existence of night during the day does not mean that night has no existence or is nothing. Sleep is the negation of waking but certainly sleep is something real. Negation is an affirmation or just as positive as the positive itself. But it is an affirmation of what is NOT present. What is not present must also BE in order to recognize that it is not present.

The identity of a thing includes its distinction or negation. Everything in being what it is contains its negation, or what it is not. Thus thought and the thing are inseparably connected inspite of being related negatively to each other. In this way everything is intrinsically contradictory. There is also extrinsic or external contradiction. Understanding this requires a careful discrimination of the different types of being. Generally we do not think of being as differentiated. Considering the way things have been progressing in this discussion so far, we may be ready to recognize difference in the least expected places. Basically we have to consider two types of being. Being-in-itself and being-for-itself or for another.

Hegel gives the example of a seed or an embryo to explain the difference that is implied here. Because the seed of an oak tree will grow into an oak tree, we can say that the seed is potentially or implicitly an oak tree. In this sense the seed is an oak tree in itself or implicitly. A fully developed oak tree is an oak tree for itself, or explicitly as such. Likewise, a human embryo is in itself a human being but not yet for itself a fully developed human being. Here we are distinguishing being in itself in the sense of potentiality and being for itself as what it is in actuality.