THE TREE OF BEING AND ITS GENESIS

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ÖZET

Bu yazıda Varlık Ağacı adını verdiğim bir kavramdan bahsetmekteyim. Kavram yeni olmasına rağmen felsefe tarihi dikkate alınırsa kökleri Aristoteles'e kadar gidebilecek bir kavramdır. Bununla birlikte bu incelemede kavramın olası tarihsel kökleri incelenmemektedir. Varlık Ağacı kavramını, Lacan ve Badiou'nun felsefelerinin ışığında ve onların felsefelerinin ileri bir sonucu olarak çıkarsamaktayım. Buna göre, varolanların sistematik bir serimlemesi yapılabilir ve bu serimleme esasen ikili bir ağaç yapısından oluşmaktadır. Varlık Ağacı adını verdiğim kavram da bu ikili ağaçtan başka bir şey değildir. İşte bu makalede de, bu ikili ağacın nasıl çıkarsandığı ve onda bulunan özellikler ve ilişkiler enine boyuna incelenmektedir.

Anahtar Sözcükler: Varlık, Türeyiş, Badiou, Lacan, Sayma

(Varlık Ağacı ve Türeyişi)

ABSTRACT

In this article, I have been referring a concept, which I call Tree of Being. It can be rooted to Aristotle, though the new concept, if we take into consideration the history of philosophy. However, in this study, it is not considered the possible historical origin of it. Under the light of the philosophies of Lacan and Badiou, I have been inferring the concept of Tree of Being as an advanced consequence. According to this, it can be made a systematic exposition of beings. And this exposition consists of a binary tree essentially. The concept, which I call Tree of Being, is nothing except that binary tree, too. Here in this article, how this binary tree can be inferred from the philosophies of Lacan and Badiou and what are the properties and relationships on it are considered in depth.

Keywords:Being, Genesis, Badiou, Lacan, Count

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The concept of "The Tree of Being" may seem bizarre and puzzling at first. However, when we turn back and look at the history of philosophy, we can see that this concept has been addressed by philosophers especially such as Plato, Aristotle, Plotinos, Spinoza and Hegel. The usage of the concept may not be with the same name, but the content that it carries is same. This content has consisted of concepts such as "categories / ousia", "in itself/in otherness", "emanation (emanatio)", "Immanence/Transcendency" and "dialectical". Actually, we can further expand the concept list revolving around this content and hence the names of philosophers. Nevertheless the purpose here is neither to take the reminder from the history of a philosophy, that is the subject of these themes, nor to put the philosophies of the relevant philosophers under the focus and define their relation with the concept of "The Tree of Being". I rather intend to address the issue in the framework of the program that I give below and as a further conclusion of Lacan and Badiou's philosophical considerations (or analyze) and I also intend to review this topic as an extension of my previous articles[1]. After reading this article, those who wish can search or establish a connection with the relevant themes of the philosophers.

Especially the analysis and ideas put forward by Lacan and Badiou in the 20th Century Philosophy creates a good entry point into where we should start. In fact, the "introduction" had to be historically created by Lacan and Badiou in order to have full understanding of the subject. The section I base this line is the first section. It's addressed that what kind of ontology was provided by absence or void and the meaning of that ontology in terms of Pascal Triangles or Natural Numbers in this section. In this regard, Lacan and Badiou's views have been examined in relation to this issue. The second part is about the emergence and features of the tree, which we have given the name of the Tree of Being that shows the hierarchical structure of the genesis of what actually existed ontologically. In this section, as well as the appearance of the tree, various structural features (being a binary tree, determining of some features at the emergence of new nodes or repetition of old ones etc.) are examined. Finally, there is an analysis and evaluation of this tree that describes an abstract and hierarchical structure of existing ones.

Beginning and Its Ontological Meaning

It can be said that, ontology as a fundamental discipline of philosophy is a discipline that acquires content from how we look at the beginning. Because we have known since Plato that the beginning is an important element in determining what will happen in terms of what exists. In One's examination as in itself and in otherness, everything that exists as much, falls after One's itself in Plato's Parmenides dialogue. Therefore,

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[1] Also see: Dursun Yücel, **"**On "One" (Thing) that Is Missing In the Lacanian Thought", *Filozofski Vestnik*, Vol XXXII, Number 2, 187-211, 2011 and Dursun Yücel, "Balancing of Badiou's Two: Taking into Account of One", FLSF, Ankara, Number 15, 2013, pp:171-185, 2013

ontologically the priority / posterior relationship and this relative born multitude appear as soon as enunciation of the "One". But in such a case, One's position is assumed to be valid. It can't be deduced as a result in any derivation, on the contrary, its' position considered as a truth that determines the beginning. However, in philosophical considerations of Lacan and Badiou, One does not have a valid position in any way. There is no One position neither as a One in multitude nor as a One, which is stripped of multitude. There is something "counted as one", but it is not exactly "one". Because according to them, there is an "impossibility" that is "unrepresentable" in the beginning, which derives "zero", or "void" and the result of that is the repetitive "nothingness" or "inexistence". Therefore, there seems to be a relationship of determination between the initial acceptance and the conclusion. If the result is important, the beginning is also important at the same time.

But when it comes to Lacan and Badiou, where do we get our initial knowledge? And what kind of ontology is the ontology that this beginning gives us? Let's start with Lacan first, and then go on Badiou on the same line.[2] Now, for a moment, let's forget about our anxiety about researching the beginning and analyze the logical state of the thing (an existing) that present itself as possible to us. This thing, which Lacan calls Real (réel), is mentioned with an affirmation that can be universally described in discourse. For instance, this is a "mamma" for a zoologist and the classification of "mammal" is made over the existence of a universally affirmed "mamma". But is this really the case? So how is it possible for a "mamma" to be universally affirmed in something like a mammal classification (or any discourse that goes by the name of "mamma")? Where does the universal character of affirmation of "mamma" in the mammal's come from? Lacan indicates that what supports this affirmation is a privation that comes before it and makes it possible.[3] Because the universally affirmed position of the "mamma" can be expressed as the absence of its absence. Thus, starting from the absence of the "mamma", other positions related to its existence can be logically arranged. Lacan displays these logical positions in a four-quadrant circle: The universal / affirmation - (- 1) occurs with the exclusion of universal / negative -1 from these positions. Therefore universal affirmation and their particulars occur starting from the universal negative. But Lacan continues analyzing at this point without completing and according to him, "affirmation which is described as universal, positive universal, only has meaning from the

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[2] The subject that I have discussed and tried to summarize here, The Lacanian meaning of beginning is in Dursun Yücel, **"**On "One" (Thing) that Is Missing In the Lacanian Thought", *Filozofski Vestnik*, Vol XXXII, Number 2, 187-211, 2011. And after that what is expressed through Badiou's concept of "unpresentable" explained in detail in Dursun Yücel, "Balancing of Badiou's Two: Taking into Account of One", FLSF, Ankara, Number 15, 2013, pp:171-185, 2013. Thus, here, some important elements of the subject have been repeated.

[3] Lacan Jacques. "L'identification", Séminaire IX, Unedited Publication, 1961-62. /7.3.1962/

definition of the real, starting from the impossible."[4] So if we think about our example, there is an impossibility that precedes "mamma"s poverty. The question may be asked: Why does not it stop at this point and going further? For, the analysis is still going on at this point. In other words, according to Lacan, there is still a sustainable quality. When we continue the analysis, "could it be that there is no mama?"[5] can be asked and the answer "not possible, nothing maybe" can be given. This answer will link the nothing with the impossibility. Two things are visible in this connection: The first is nothingness, by declaration; get out of over the not being possible. The second one, the question points to us impossibility that underlying notion of nothing and the absence. I mean the most basic impossible… After reaching this impossible, this is another expression of everything that is real, Lacan's analysis stops at this point. In one sense the beginning was reached and it's everything. This analysis will be the same for every universal affirmation, so the point to be reached is the same so it will be impossible in the sense of Lacanian. It should be known that this is not a linguistic game. The point reached is necessarily an outcome because of the Lacanian analysis requirement. In other words, the point reached is a place where thought has to go.[6]

So if we ask what this point means, the answer is that everything that seems to be present and possible is in fact nothing and not possible. This means that impossible is possible. If you think that no ontological situation can arise in such a case, then you are in a hurry. In an initial state, where the impossible is possible, an "ontology" emerges that is unique and repeating itself. But before focusing on the emergence of such an ontology, as in Lacan, let's look at what does the beginning in Badiou mean? For, Badiou the beginning also comes out of a parallel path like the Lacanian beginning. Ontology has a similar meaning for both, in the final analysis. Then I will return to this nothingness ontology that I have mentioned before.

As I said, Badiouian expression of the beginning and Lacanian expression of the beginning are almost same. "Impossible" in Lacan becomes "imprésentable" in Badiou. Imprésentable's ontological status, exactly like Lacan's "Impossible", as an exclusion logic on the basis of a retrospective grasp, also retrospectively grasped in Badiou. In fact, retrospection is also found in the "counting" that gives us the presentation of objects. I will not go into the details of why this is so, but I must say that this origin can be better seen in the derivation of the "Arithmetic or Pascal Triangle", which we can call "radical counting of objects". For now, we must say that counting takes place essentially in a delayed and retrospective way.

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[4] Lacan Jacques. "L'angoisse", Séminaire X, Unedited Publication, 1962-63./19.12.1962

[5] Lacan Jacques. "L'identification", Séminaire IX, Unedited Publication, 1961-62. /7.3.1962/

[6] Could the analysis that Lacan left at this point be taken further? Yes. See the review about this issue: Dursun Yücel, **"**On "One" (Thing) that Is Missing In the Lacanian Thought", *Filozofski Vestnik*, Vol XXXII, Number 2, 187-211, 2011.

Therefore, the presentation of objects becomes also in this way. At this point the following question is meaningful: "[...]If we can only count as one retrospectively [...],we have to ask whether there is something that is prior that precedes retrospection."[7] The one that located at the front in counting, in other words the "logical state" of the precedent's presentation emerges. It is a starting point where nothing belongs to it outside the presentation. Nothing belongs to unpresentable brings two things together: First, emergent being of nothing or absence and the other is the ontology that this being presents by repeating itself. The meaning of the ontology for Badiou is the "empty set" and its endless repetition in all presentations. And every repetition is an enunciation of "being". The only difference is that this enunciation of "being" is essentially that of absence. So every presentation is the presentation of unpresentable to which nothing belongs many times and many times.

If we focus more on the ontological meanings of beginning points in Lacan and Badiou, we can see the close relation between "the system of the counting" and the "existence of objects." What I meant by saying systematic, as it can be understood, is Pascal Triangle in the Lacanian view and the emergence of Natural Numbers in the Badiouian meaning. Although their ontological meaning is similar for Lacan and Badiou, the concepts used by them are different. First of all, we must first mention that the Pascal Triangle is a concept used especially by Lacan. Badiou uses the concepts of Natural Number or Ordinal Number (Ordinal as finite and infinite). And for now, we are only interested in the derivation of the Natural Numbers that can be also described as finite ordinal numbers, or the Pascal Triangle. In this context, how all the other numbers can be handled is matter of another article.

Let's look at this derivation, or in other words, the ontology of objects by adjusting our focus to especially "yad'lun (il y'a de l'un)" in Lacan and "count as one (le compte pour un)". Let's first consider Lacan's yad'lun concept. Lacan is closely related to the issue of derivation of numbers and he is especially aware of Frege's work. Frege makes a justification about Natural Numbers in his work that entitled as Foundations of Arithmetic (Die Grundlagen der Aritmetik). He makes two things in this justification. Firstly, he develops a definition of an object falling under each concept. Secondly, he sees zero as an object falling under the concept of unequal self, and counts it as one.[8] So the logic of the numbers following each other in natural numbers emerges: For, the possibility of each cardinal number is determined by the logic of counting the objects under the concept. For instance, counting 0 is 1, and then counting 0 and 1 is 2, after that counting 0, 1 and 2 is 3 and so on... Thus all natural numbers are derived starting from 0. Lacan finds valuable Frege's derivation of numbers starting from 0. But according to him, the

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[7] Calcagno Antonio, Badiou and Derrida, Politics, Events and Their Time, Continuum, 2007, p.69

[8] Frege Gottlob, Aritmetiğin Temelleri (translator: H. Bülent Gözkan), YKY, İstanbul, 2008, p:170-173

transition from 0 to 1 seems logically insufficient.[9] According to Lacan, the transition is not immediate and easy from 0 to 1. And here, at this point, he develops the notion of Yad'lun. In the counting of 0, it is not exactly passed to 1, but instead, something that is called Il y'a de l'(Yad'lun). It's a thing that is not exactly 1. Then the counting sequence is continued but neither as 1 nor as 1's beyond.

One can't easily pass because it is built on not on sameness (mémeté) instead it is built on pure and simple difference, on the basis of difference.[10] The difference that it is based on is never fully overcome and it therefore remains radical. We will return to this topic in the derivation of the numbers, that is, the derivation of the Pascal Triangle but now let's look at Badiou's concept of "count as one".

Like one, counting is also has similar rationale. Badiou gives the basis of zero or void in Being and Event as: "Nothing, no multiple belongs to unpresentable"[11]. This is a notification that reveals the existence of something that belongs to the unpresentable: nothing, absence (rien). The postulated existence of absence, nothing or when think about counting void is also the name of a repetitive repetition in all presentations. This recursion uncovers the old as well as brings out the new. Badiou refers to the former (représenté) and then to the latter (présenté). And in a way, every iteration as count-as-one is a renovation but on the other hand those counted -as- one's reappearance also. Count -as- one is actually reinstatement of void or empty set in a new phase. On the other side, because the count -as- one comes out from "the difference is minimal, where there is 'almost nothing,' at the edge of whatever is void for that situation"[12], essentially the minimum difference is counted as one.

Then Yad'lun in Lacan and count-as-one in Badiou are the items showing how the ontology has been emerged as the manifestation of the inexistence. A systematic breakdown of these manifestations, what I mean, how can the exposition of the "existents" (actually "non-existents") questioned since Aristotle, can be done? This is the question that puts the Pascal Triangle in our focus in relation to Lacan.

A System of Being: Pascal's Triangle and the Genesis of Natural Numbers

Above all, as mentioned earlier, Yad'lun's foundation was based on the difference. In this direction, Lacan calls the first 1, which is based on the difference, the sameness of the difference.[13] It is not the sameness but

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[9] Lacan Jacques. "...ou pire",, Séminaire XIX, Unpublished publication, 1971-72. /15.3.1972/

[10] Ibid /19.4.72/

[11] Badiou Alain, Being and Event (Tr. Oliver Feltham), USA: Continuum, 2005, pp:67

[12] Hallward Peter, A Subject to Truth, Minneapolis & London: University of Minneapolis Press, 2003, p.163

[13] Lacan Jacques. "...ou pire",, Séminaire XIX, Unedited publication, 1971-72. /10.5.1972

difference that lies at the base and sameness builds on that difference. Therefore the first one comes out on its lack. That is what it means, "One begins exactly where one is lack"[14]. The emergence of first 1 sets off the next 1s. And this derivation is in an entirely exponential way. The reason for having exponential derivation is "caused by One's duality"[15]. In other words, 1 that appears based on its lack and difference is a dual situation trying to get rid of the lack and difference. Because the observed fact is actually a situation of 0, 1 so 1 that comes out of its own lack. As I said, 1, it tries to get rid of its own lack (0) but never fully accomplish this. 0 and 1 (Yad'l'un) are present at the point that it does not succeed. So the dual base of an exponential counting is thus established. From now on, every 1 will emerge on the basis of this dual style. Lacan calls this first line of 1s in the Pascal triangle as *nade*. He indicates that the next lines are also comes from it. But Lacan tries a difficult way to show how the genesis becomes and he remarks that the next lines are "count of subsets" Although this is entirely true (and Badiou followed Lacan over this statement) we need to clarify what the "subset count" actually is. In this regard, we can express how the "subset count" takes place around Lacan's narrative:

Firstly, Lacan's "there aren't 2 that derived from 0 and 1"[16] statement also applies to 3, 4, 5,... and other numbers. The arrival of the numbers is at levels 0 and 1. Therefore, firstly we will have to show that Pascal triangle's derivation at this level and then we can easily switch to its normal view.

Now, first 1, the emergent thing when its minus is determined by 0, exists 0 and 1. Since this new emergent 1 also appears with a difference of 1, it also generates a new 0 and 1. This logic thus always goes on, that emerging as always-new sets a new difference so 0 and 1 again reveals.

Now let's trace this derivation step by step.

0
0 1 after the first step

0
0 1
0 1 second step. And then

0
0 1
0 1
0 1 third step But we, at this very moment, have to talk about something that is the essence of what is called the "subset count": something like writing down at each row the total count up of what is preceded. That is to say,

0

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[14] Ibid /19.4.1972/
[15] Ibid 15.3.1972/
[16] Lacan Jacques. "...ou pire",, Séminaire XIX, Unedited Publication, 1971-72. /10.5.1972

0 1 After the first row and while moving to the second, we should show both rows as follows:

0

0 1

0 1 0 1 (the last 0 1 derives from the row we have counted before. We should note that we have already counted it) So to continue...

0

0 1

0 1 0 1

0 1 the beginning of the third row and

0

0 1

0 1 0 1

0 1 0 1 0 1 0 1 The third row through a display of the second and first rows above. When we continue in this way, we get the following:

0

0 1

0 1 0 1

0 1 0 1 0 1 0 1

0 1 0 1 0 1 0 1 0 1 0 1 0 1 0 1

… .. …….

Figure 1

If the figure is redrawn by omitting the 0s, namely, with a focus on the enunciation of "being"

1

1 1

1 1 1 1

1 1 1 1 1 1 1 1

… .. …….

Figure 2

We then get the triangle above. But note that this view of Pascal's Triangle is when the rows are enumerated with 1. The normal view of Pascal's Triangle is constructed by adding the 1's. That is:

1

1 1

1 2 1

1 3 3 1

… …

Figure 3

Each number on each subsequent row may be constructed as the adding of numbers above to the left and right, providing us with a true view of Pascal's Triangle. This true appearance makes the "subset count" more

apparent than in Figure 2. Yet, Figure 2 and Figure 3 are actually identical. Ontologically speaking, the exposition of those that exist (in fact they being non-existent) is accomplished via the derivation of Pascal's Triangle. As can be better understood from Figure 2, the sum of the elements in each level is an exponential expression of 2. For, the counting has been through a binary system (0 and 1's) continuously repeating itself. This then means that "number 2 has inaccessibility".[17]

What we learn from this derivation of Pascal's Triangle's is as follows:

1. In the derivation of the triangle, two things strike us: The first is that, each row of the triangle becomes possible with the genesis of a new 1 that we can call as a new Yad'lun. And this "newness" repeats itself forever. The second is that, at each level where a new 1 emerge, the preceding 1's are taken into account in order for the counting to progress accurately. This calculation is also referred to as the "subset counting", the formula of which is $2 \wedge (x-1)$ (2 over x minus one).

2. The counting of each new 1 does not take place as soon as it's generated, and its consideration is to be at the next stage. As a result, the counting occurs in a retrospective manner with some delay.

3. The progression at each level (not the emergence of numbers at each level) gives the Ordinal Numbers. This is also the progression of Natural Numbers.

4. Derivation occurs at levels 0 and 1, and each 1 or "being" enunciation is present with its own lack, i.e., concomitantly with its own difference. In general, the progression appears in the form of "binary oppositions".

This derivation of Pascal's Triangle and its structural characteristics play an important role in the formation of a binary tree that we call the Tree of Being. The binary tree not only exposes the being in the form of a tree, but it also represents us their relationship from an abstract point of view. But before going any further regarding the tree, we'd better take a look at Badiou's derivation of Natural Numbers.

In Badiou, as in Lacan, we know that the being of the void is at the beginning. This being of the void refers to the empty set, which will multiply itself in every situation. This is as follows: First, the genesis of the void, as mentioned before, is through the "nothing belongs to the unrepresentable". That is to say, "at least one β exists so that there is no α belonging to it"[18] comes to mean that void Ø specifies as a telling of impossibility. As stated by Badiou, this then provides "a first step of being". After that, a rule that produces an other-same (l'autre-meme) is required. In other words, the rule that produces everything else in an ontological sense of the word... The rule is on the horizon soon after "the name of the void, which is absolutely the

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[17] Lacan Jacques. "...ou pire*,, Séminaire XIX*, Unedited publication, 1971-72. /10.5.1972

[18] Badiou Alain, *Being and Event* (Tr. Oliver Feltham), USA: Continuum, 2005, p:68

first stage of being for ontology" becomes apparent: Count-as-one. Badiou uses the axioms of the ZF (Zermelo-Fraenkel) axiomatic system in order to express the so-called counting in an ontological sense[19]. At this point, I will not get into the axioms in detail, and I will only give the logic behind the rule of the derivation. This rule basically consists of two elements: 1) the concept of a power set, which shows the subsets of a set 2) the concept of a singleton of a set as Count-as-one.

In a Lacanian sense, the second rule appears as a concept that states the genesis of every new enunciation of being from the gap Ø. Again in a Lacanian sense, the first rule can be thought of as all 1's in every level of Pascal's Triangle. However, Badiou's ontology is entirely axiomatic and can best be understood in light of his own statement that "mathematics is ontology". Therefore, the Lacanian context employed here ought to be considered carefully. We have now come to the issue of genesis...

Initially, the first counting of the void Ø reads { Ø }. This is also the first number after 0 { Ø }, that is, it is the 1st Ordinal Number. Thereafter, first of all, the singleton[20] of this set is found out and combined with the final appearance of the set. What is obtained gives the following number. And it goes on and on. For example, the singleton of { Ø } is {{ Ø }} and as the final appearance is { Ø } then the next Ordinal is { Ø } U {{ Ø }}, that is { Ø, { Ø }}, (Number 2). The singleton of this set is {{Ø, {Ø}}} to find the next number. As the final appearance is { Ø, { Ø }}, the next Ordinal is { Ø, { Ø }} U {{ Ø, { Ø }}}, that is { Ø, { Ø }, {{ Ø, { Ø }}} (Number 3). It goes on like this. The whole logic consists of a U {a}, that is, the final singleton is added to the final ordinal. The singleton can be derived from the Power Set, and if we name it *presentation*, then what is left behind from the Power set is to be called as *representation*. Accordingly, the Ordinal Numbers

Ø	0
{Ø}	1
{Ø,{Ø}}	2
{Ø, {Ø}, {Ø, {Ø}}}	3
{Ø, {Ø}, {Ø, {Ø}}, {Ø, {Ø}, {Ø, {Ø}}}}	4
{Ø, {Ø}, {Ø, {Ø}}, {Ø, {Ø}, {Ø, {Ø}}},{Ø, {Ø}, {Ø, {Ø}},{Ø, {Ø},{Ø, {Ø}}}}}	5
…. …. … … … … . … ….	

Figure 4

Thus, the finite ordinal numbers (and then the infinite order numbers) and thus the Natural Numbers have emerged.

To sum up, I have so far examined the ontologies of Lacan and Badiou as a systematic exposition of beings. And the narrative I have adopted up to this point was tightly attached to the point of views of Lacan and Badiou. Now I will focus on how this ontology of beings can be handled in another way.

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[19] Ibid. 91/151-153

[20] The following way to find Singleton: For example, first find the power set of G = {a, b}, {a, b, {a, b}, Ø} and then everything else that is not G from this power set is subtracted, that is, a, b and Ø, {a, b } are left behind. So if you get G set {G} (count as one is such a thing) you already have Singleton.

An Integrative Overview of the Being: Tree of Being

To be able to make a general description of the tree of being, I propose that we go back to Pascal's Triangle first and pay attention once again to the genesis of Yad'lun that starts anew at every level. For, as might be better seen in Pascal's Triangle of 1's, the unit of a pattern repeats itself continuously throughout the progress of the triangle. And the repetition of the unit starts with the beginning of the triangle. In Figure 5, the basic structure of the initial unit of Pascal's Triangle as in the box below can be explained as follows:
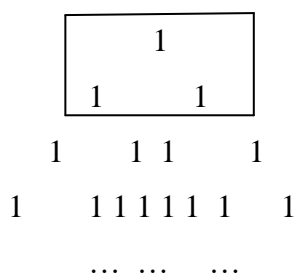
```
        ┌─────────────┐
        │      1      │
        │  1       1  │
        └─────────────┘
      1      1  1      1
    1     1 1 1 1 1    1
        …   …     …
```

Figure 5

The first row 1 is the counting of previous difference and the counting of new difference derived from the previous counting is shown with 1 in the lower left of the box. The first row 1 is counted later as it counts the previous one prior to counting itself (so the counting is always delayed and retrospective). So 1's to the left always come delayed (this is natural as we normally start counting with zero). In the following row, this is again indicated with 1 to the bottom right of the box. Therefore, in the pattern shaped like a triangle, the first row 1 is processed twice; the first being for the genesis of the following one and the second being the repetition of itself in the following row. That is to say, every 1 that appears at the beginning of the unit is processed both in the derivation of the one after itself and in the recurrent specification of itself. If it were not for this specification, it would be the new genesis of every new one in the counting, yet would fail in specifying the new ones to follow each other, which is the most crucial aspect in counting. This structural unit repeats to the left in the triangle (see Figure 6).
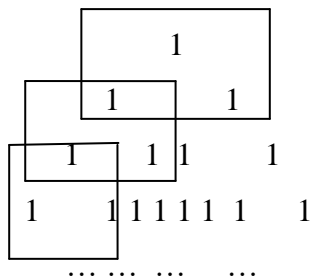
Figure 6

If you bring in mind the repetitive character of the unit to the left in Pascal's Triangle, it will then be realised that the Triangle has already shaped a binary tree. But before going further up, let's have a look at the 1's remaining outside these units. Why do they exist? As I have said, the counting requires specifying the genesis of those that are new and those that precede so that all thus far have been counted properly. This reality may come to mean something like a recounting. That is to say, those to be counted for the first time come out to secure the progress of any next level counting.
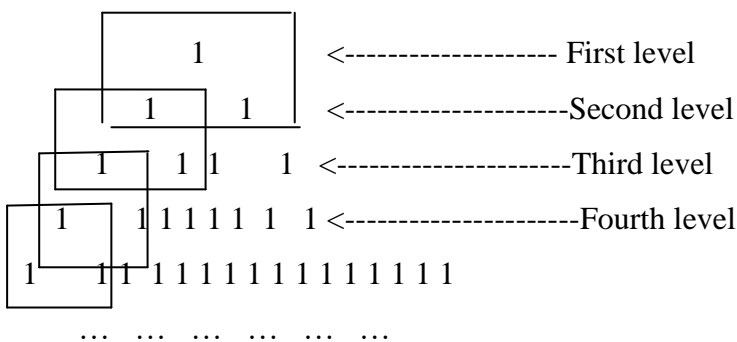

Figure 7

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Now the binary tree is also exist for those repeat out of the unit, where "the new" one is located. For instance, on the second level, there is 1 repetitive from the previous level. Because that "1" repeats, its repetition can be shown at the second level. Above the third level there are three repetitive, three piece of 1 from previous levels. Hence, since these 1's repeat, their repetition can be shown at third level. These three 1's can be shown in various forms as permutation. Above the fourth level there are 7 repetitive 1 from previous levels and because seven 1 repeat their repetition can be shown in various forms in fourth level (see figure 7). Actually, the logic is simple; on the each new output, the previous level's 1's pass next level as repetition.

Thus, the Pascal Triangle is a doubletree structure, both on the exit of new (left side of our figure[21]) and on the repetition of previous (right side of our figure). We can depict this tree in figure 8 as follows:
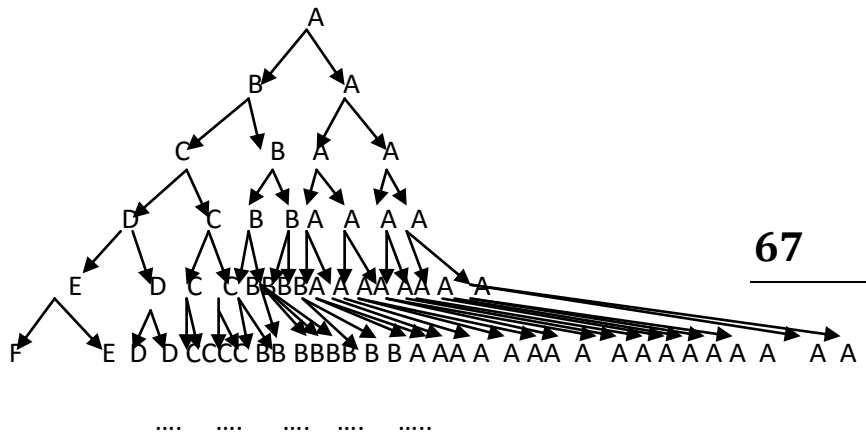
Figure 8

When the permutative relation in each level of the tree is taken into account, except each level's new (except the leftmost branch), respectively beginning from the third one this permutation can be expressed as:

BAA, ABA,AAB (third level)
CBBAAAA, BCBAAAA, BBCAAAA, BBACAAA, BBAACAA, BBAAACA
BBAAAAC, BACBAAAA, ...(fourth level)
DCCBBBBAAAAAAAA, CDCBBBBAAAAAAAA, ... (fifth level)
.....

If we take a closer look, the position of the leftmost new is not included in the permutation because the appearance of the new is not from old or repeated one. Each new constitutes the possibility of next new. What will happen if this position of the new includes in the permutation and is

[21] Left and right sides are not absolute

displaces horizontally? Let's give the answer by discovering the meaning of the tree in Badiou's context.

Now let's go back to Badiou and continue where we left off because we need to understand the tree more clearly. The most important concept for the counting and recounting (sub-sets) of the new is Power set in Badiou. So, starting from the void, let's see how the new derives and how repetitions appear.

$0 = 0$

$1 = \{\varnothing\}$

Güç Kümesi= $\{\varnothing, \{\varnothing\}\}$ *singleton* = $\{\{\varnothing\}\}$

$2 = \{\varnothing, \{\varnothing\}\}$

Güç Kümesi= $\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}, ...\}$ *singleton* = $\{\{\varnothing, \{\varnothing\}\}\}$

$3 = \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}$

Güç Kümesi= $\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing, \{\varnothing\}\}\}, \{\{\varnothing\}, \{\varnothing, \{\varnothing\}\}\},$ $\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}, ...\}$ *singleton* = $\{\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}$

$4 = \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}$

Güç Kümesi= $\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing\}\},$ $\{\varnothing, \{\varnothing, \{\varnothing\}\}\}, \{\varnothing, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}, \{\{\varnothing\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\},$ $\{\{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}, \{\{\varnothing\}, \{\varnothing, \{\varnothing\}\}\},$ $\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\},$ $\{\{\varnothing\}, \{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}, \{\varnothing, \{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\},$ $\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}, ...\}$

Singleton = $\{\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}, \{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}\}\}$

...

As it can be seen, each level (Ordinal Number) is repeated at the next level in terms of elements of Power set. Moving to the next level, this occurs by adding the previous level's singleton to new level's ordinal. So singleton is the new one. The power set represents all sub-sets. For example the Power set of 4 contains whole Power Set of the 3. However, it is also like there are items that are not included in the previous Power sets. For example, for 4, $\{\varnothing, \{\varnothing\}, \{\varnothing, \{\varnothing\}\}\}$ does not exist in the previous Power sets. Badiou calls such representations as "excrescence" because it is the non-represented one of previous level. Those existed before and repeat after, are "normal representation". We will bring the status of the "excrescence" representations more openly, but first let's try to comprehend the ideas of Badiou already mentioned above, and which are based on the ZF set theory.

Just as in Lacan, we can say that the root node of the tree is zero or empty set for Badiou. The root $\{\varnothing\}$, produced $\{\varnothing, \{\varnothing\}\}$ soon after. At this level, since the singleton is $\{\{\varnothing\}\}$ is the new singleton and the repetition is $\{\varnothing\}$. So if we want to show the tree, branching after the root is like this:

$\{\varnothing\}$
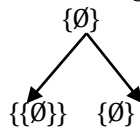
$\{\{\varnothing\}\}$ $\{\varnothing\}$

Figure 9

It is the singleton {{∅, {Ø}}} was used to continue and find the next branching; next ordinal {Ø, {Ø}, {Ø, {Ø}}}. Repetitions pass this level are {{Ø}}, {Ø}. Therefore, if we continue like this, for example, we can show the tree up to the fourth level (see figure 10)
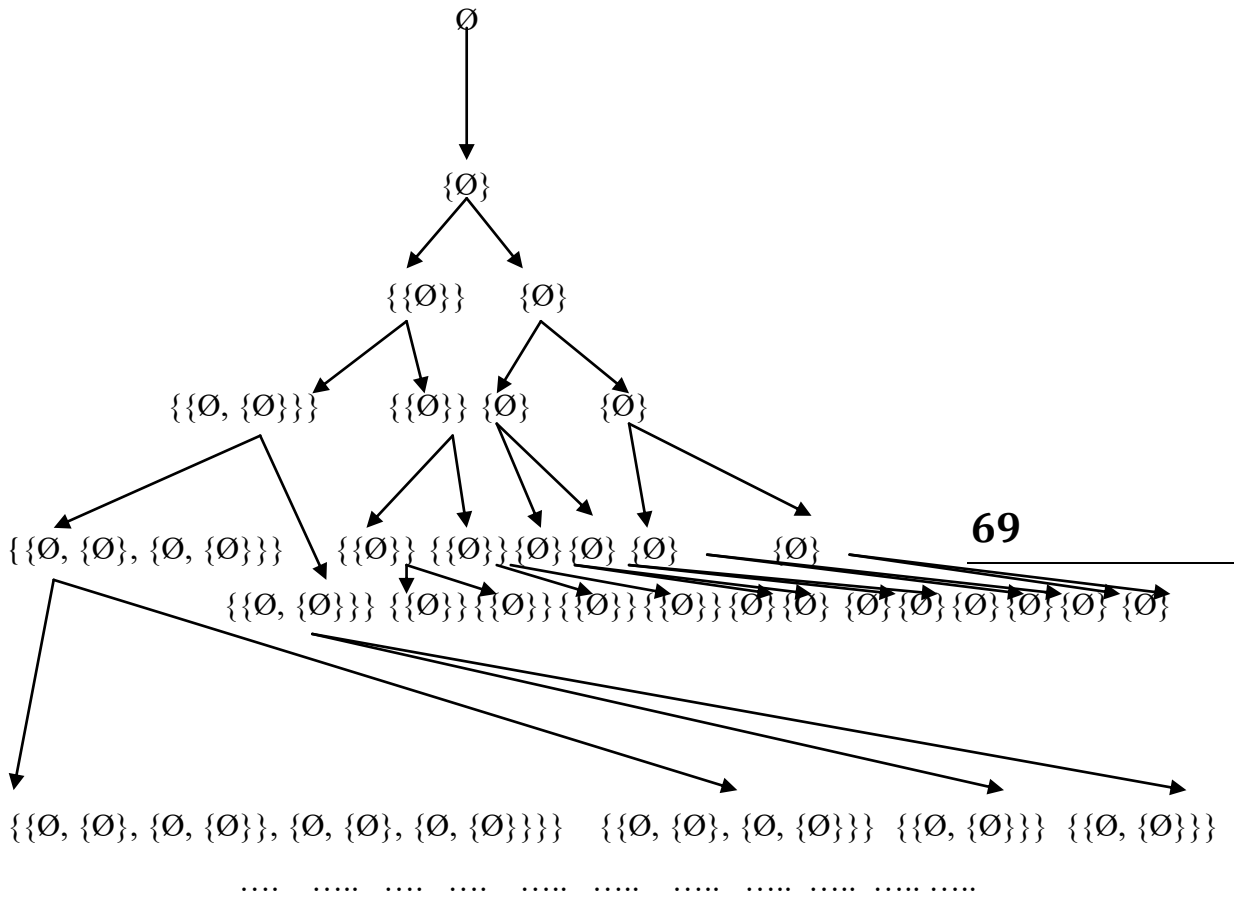

Figure 10 The Tree of Being

Figure 10 is an illustration of the "empty set" of figure 8. In this illustration, permutations are neglected. For a more accurate illustration, permutations mentioned above should be considered. The tree consumes the Being from the root to the branches in such a way as to cover every possible existence. This is also a realization of ZF axiomatic theory. Hence, this is the embodiment of the idea of "mathematics is ontology". Also, starting from the root node of the Tree by navigating to any leaf node -when permutations are

considered- gives us a "Being" (Badiou's one multiplicity) as a presentation or as a representation. For example, if we start from the root in Figure 10 and trace the leftmost to the leaf of the fourth node, what we find is {Ø} U {{Ø}} U {{ Ø, {Ø}} U {{ Ø, {Ø},{Ø,{Ø}}}= {Ø, {Ø}, {Ø, {Ø}}, {Ø, {Ø}, {Ø, {Ø}}} or if we start from the root and go to the second leaf from the third level, what we find is {Ø} U {{Ø}} U {{ Ø}} = {Ø, {Ø}} Another example is to the trace - when permutation is accounted for- starting from the root to the second leaf node on the right of fourth level: {Ø} U {Ø} U {Ø} U {{Ø, {Ø}}} = {Ø, {Ø, {Ø}}} Now, we can ask again the question already asked above: What happens if the new on the left, the singleton, is displaced horizontally on its own level? The representation which Badiou calls "excrescence" emerges. For example, when we come from the root to the there by the new of the third level moved to the right two, then {Ø}, {Ø}, {{Ø, {Ø}}= {Ø, {Ø, {Ø}}} emerges. Although, it belongs to the third level, it is not repetition of anything in the second level and therefore, this is representation of an "excrescence".

Finally, we have to say something about the Tree; the horizontal sum of each level gives us the Ordinal Numbers of that level. For example, the horizontal sum of the third level is , {{Ø, {Ø}}} U {{Ø}} U {Ø} U {Ø} = {Ø, {Ø}, {Ø, {Ø}}} and this is the third Ordinal Numbers.

Axioms and the Relations in the Tree of Being

The axioms to be presented here for the Tree of Being are the axioms in the ZF set theory. In fact, Badiou's philosophical system is also based on ZF set theory. To make the axioms understandable, we will sometimes refer to the reflections of Pascal's Triangle, which we have examined in respect to Lacan's thinking, and we will also speak of the adopted meanings of axioms in the exposition of tree. But first of all, we are to state that the conceptualization of Being in the form of a tree is in certain respects engaged with Badiou's concept of "Constructible Hierarchy". So, we will briefly introduce Badiou's concept here in order for a theoretical perception of the tree. So far as I know, however, - when permutations also taken into account- it has been the first time that the Being is reflected in the form of a tree as such.

I have dealt with nine axioms that might concern the Tree of Being. If the 'choice axiom' to be added to others, we will be considering the axioms of the ZFC (Zermelo-Fraenkel with Choice) set theory, but if it is to be kept out, then we will be having the axioms of the ZF (Zermelo-Fraenkel) set theory.

The axioms are as follows:

1.   **Axiom of Extensionality**: This axiom is for the identification of sameness or otherness of the sets. If the elements of two sets are the same, then they become identical, otherwise they are different. That in a Badiounian sense means that if the multiples belonging to α are the same as the multiples belonging to β, then α and β are considered to be the same or identical. This is as follows: $(\forall \gamma) [(\gamma \in \alpha) \leftrightarrow (\gamma \in \beta)] \rightarrow (\alpha = \beta)$ As a result, we affirm that α and β are indistinguishably identical. To give an example

from our tree, starting from the root in figure 10, the third node ({Ø}) and the fourth node ({Ø}) from the left side of the third level are identical. Both sets have a single item (Ø) and they are the same. In figure 8, sameness and otherness can be easily traced by the fact that the letters in the figure are either the same or different. It can also be easily seen on the same figure that the sameness emerges when any Yad-lun is compared to itself or its counterfeit. This is for Badiou that the representation is nothing but a name of the presentation or a nominal seal, they are then ontologically identical.

2.   **Foundation Axiom**: This axiom tells what the new is based on. In other words, it refers to the Other by emphasizing in a more radical manner the otherness spoken of in the comprehensiveness. Through foundation axiom, Badiou distinguishes between "natural" and "historical" premises: a state-being becomes historical if it does not contain any singular but a natural premise. This axiom also prevents "self-belonging," which leads to a Russell paradox. In our Tree of Being, this is exemplified in every node that moves in the left-hand side, and it is then "historical" while the others are "natural."

3.   **Axiom of Infinity**: This axiom limits finite elements. By stating that there is a cardinal number, it in a way starts the beginning of the infinite from that cardinal number. The minimum limited cardinal number is identical with w0 (Aleph 0) and an infinite number of cardinals follows it. In terms of the Tree of Being, this axiom implies the everlasting and incomplete nature of the tree.

4.   **Axiom of Replacement**: It tells that the entire elements of a particular set can be replaced with the elements of another set. This replacement claims that the consistency of a given multiplicity is not based on its own context, but it is expandable. In our Tree of Being, various replacements of the axiom are used to express the ability to move from one specific point in the tree to the other. For example, the left hand side of the second level of the tree is {{Ø}}. By replacing {Ø} with {Ø, {Ø}}, we get {{Ø, {Ø}}}, which is the leftmost of the third level.

5.   **Axiom of Union**: As is implied by the title, this axiom tells that the combination of a set is again terminated by a set. In our Tree of Being; If you thread any two nodes, you will end up with another node in the tree.

6.   **Axiom of Empty Set**: It is the axiom of root node of the tree. As the derivation happens on the basis of the empty set, the emergences of Russell paradoxes are excluded.

7.   **Subset Axiom**: It is all clear so far that any element of a set has a subset. The logical progress of our Tree of Being is principally based on this axiom.

8.   **Separation Axiom**: We can construct a set by separating certain elements of any given set. For example, in the Tree of Being, if we take the element {Ø, {Ø}} of the leftmost node of the fourth level {{Ø, {Ø}, {Ø, {Ø}}}, we get the set of {{Ø, {Ø}}}. This is the leftmost of the third level.

9.   **Axiom of Choice**: In comparison to the others, the axiom of choice can be seen as a "special" axiom. The axiom is as follows: When a set is given, each non-empty element of this set has a set made of a representation. That is, there is a function f that when α set is given, if it is β

ε α, then f (β) ε β. Here, the "Axiom of Replacement" guarantees the selection of representative elements by the elements of a given set (through a replacement of f function). But this is in fact the case for the finite sets. The presence of the choice becomes problematic in infinite sets. This is because of the fact that it occurs as a problem how to define or realize such a function. From the point of view of the Tree of Being, at every single point where the finite nodes are to be distinguished, it will move to a new node by selecting the nodes of the tree according to its elements.

By means of this axiom, I would like to briefly touch on the "Constructible Hierarchy". Badiou offers an in depth study of the concept. Although the discussion has an extensive place in the literature, the analysis is basically a description of the rule for inferring the latter by starting from a beginning. If seen from this perspective the Tree of Being is constructible in terms of the whole nodes. This then leads to a practical result: every bunch plucked from the Tree of Being is a tree in itself.

Conclusion

As has been explicit so far, the Tree of Being has proved an effort in the ontology since Aristotle: the exposition of the Being or those that exist. Although the notion of "Being" here indicates essentially a "non-being" in the sense of Lacan and Badiou, the aim has remained the same since Aristotle: Counting of what is present. Moreover, that the counting takes place on an axiomatic basis means deciphering relations between those that exist. As is clear from our Tree of Being, it becomes easy to identify where exactly each being is ontologically located as well as their relations to other beings. As the tree is branched out within a certain derivation model, the relations between beings are wrapped around this rule. As I previously mentioned, there lies the genesis of "new" in the root of this rule. That the new always generates as new steers this ontology into the new lands especially in contrast to a simple repetition by the rule. In the meantime, the old one as repeated has taken its place in the tree beside the "new". In this point, the derivation as in the form of a tree attributes a meaning to relations between the existent, either new or repeated. Such a meaning is constituted by the fact that anything that is derived is in the form of a binary tree and that the relation between those that exist appears as an owner-member relationship. This is the first thing I would like to mention about the Tree of Being.

Secondly, I need to mention that the derivation of the Tree of Being in a Lacanian and Badiounian sense should be taken as a whole. This does not mean that Lacan and Badiou's thoughts are identical (this is not the case at all) ... but it shows the necessity to apply to both in order for the derivation of the tree. In this sense, Lacan is invaluable for the genetic structure of the tree while Badiou is for the analysis of relations in the tree.

Another richness in the exposition of the tree is the fact that the tree is a binary tree, that is, the branching is in a binary form. The fundamental reason why the tree is a tree as such refers to the fact that it reflects the binary opposites even from the start. This is another sign of how

the tree is in harmony with reality. For the real world is nothing more than a heap of binary opposites. Our tree, as a manifestation of various forms of the two, points towards two not only in each node but in its branched structure as well.

Even though the Tree of Being does not reveal conceptual names of every being, it nevertheless exposes them in a way of abstract thinking. And this exposition is in the constructible form, that is, an account can be given to the question of how each node or level has been constructed up to that certain point. Perhaps the following aim should be to derive new expositions with certain conceptual identities on the basis of such an abstract exposition.

REFERENCES

BADIOU Alain, Being and Event, (Tr. Oliver Feltam), Continuum, USA, 2005

BADIOU Alain, L'Etre et l'événement, Editions du Seuil, Paris, 1988

BAKI Burhanuddin, , Badiou's Being and Event and the Mathematics of Set Theory, Bloomsbury Academic, 2014

CALCAGNO Antonio, Badiou and Derrida, Politics, Events and Their Time, Continuum, 2007

DURSUN Yücel, **"**On "One" (Thing) that Is Missing In the Lacanian Thought", *Filozofski Vestnik*, Vol XXXII, Number 2, 187-211, 2011

DURSUN Yücel, "Balancing of Badiou's Two: Taking into Account of One", FLSF, Ankara, Number 15, 2013, pp:171-185, 2013

FREGE Gottlob, Aritmetiğin Temelleri (çev. H. Bülent Gözkan), YKY, İstanbul, 2008

HALLWARD Peter, A Subject to Truth, Minneapolis & London: University of Minneapolis Press, 2003

LACAN Jacques, "L'identification*", Séminaire IX*, Unedited Pub. 1961-62

LACAN Jacques, "...ou pire*", Séminaire XIX*, Unedited Pub. 1971-72

LACAN Jacques, "L'angoisse**,** *Séminaire X*, Unedited Pub. 1962-63.

LACAN Jacques. "Identification", *Seminar IX*, Translated by Cormac Gallagher from unedited French Manuscripts.,1961-62.

LACAN Jacques. "Anxiety", *Seminar X*, Translated by Cormac Gallagher from unedited French Manuscripts.,1962-63.

LACAN Jacques. "...Or worse", *Seminar XIX*, Translated by Cormac Gallagher from unedited French Manuscripts.,1971-72

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