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Athens Journal of Philosophy

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• Dr. William O'Meara, Head, Philosophy Unit, ATINER & Professor, Department of Philosophy and Religion, James Madison University, USA.

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Mosse and Arendt: Two Perspectives on Totaliarianism and Democracy

By Elisa Ravasio*

According to the G. Mosse, the economical and moral crisis after the Great War led to the European totalitarian regimes, because people need to be part of a great reconstruction project of their Nations. He focuses his attention especially on Italy and Germany. Moreover, Mosse criticizes Arendt about the notion of 'banality of evil', since he believes that Nazis were used to identify people with widespread stereotypes: all people who collaborated in the genocide of the Jewish were worn out by this kind of aggressive propaganda which identified the Jews as the destructive element of the German moral and political integrity. According to him, those who adhered to the Nazis party ideology did so because, at that historical moment, the propaganda's ideas met the political and cultural needs of that social crisis context: Jewish had to be killed since they were perceived as a threat. As Mosse, Arendt analyses totalitarianism and she recognizes its causes in ideology, but she also describes more in detail the kind of agent who acted during this tragic historical period. Therefore, she focuses her attention on both executioners and victims. Moreover, regarding the Nazis, Arendt speaks about the "banality of evil" in the sense that those people did not reflect on the consequences of their actions in ethical-political terms. To sum up, the aim of this paper is to highlight the value of philosophy as a discipline able to urge people to compare and critically analyse historical, social, ethical, political phenomena.

Keywords: democracy, philosophy as a method, critical thinking

Introduction

The aim of this paper is to analyse philosophically, i.e., critically and fruitfully for our modern society, how two of the most relevant 20th century thinkers about totalitarianism studied the causes and characteristics of it. The importance of comparing the interpretation of a historian such as George Mosse and that of the philosopher Hanna Arendt stems from the fact that both were fortunate enough to experience this tragic historical period, despite being of Jewish origin, because they managed to escape to French before and, finally, only partially and directly to the USA. Here, they were able to cultivate their academic careers and explore historical and political issues related to totalitarianism, while maintaining a detached, but not overly detached, view of the issues they dealt with.

Using these two authoritative sources will make possible to approach such a complex historical period full of light and shade from two interesting points of view, both analysing the commitment of such many people in one of the most tragic periods in world history (Herf 2000).

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Moreover, the two perspectives provide such a comprehensive view of totalitarianism because they combine both the historical aspects more closely related to the economic-political-social crises of the 20th century and those of a more philosophical-cultural perspective. The general conclusion to be reached through the analysis led is that analysing different sources allows the reader to acquire new information on issues one probably already knows, through different, but more critical points of view. At the same time, one person could become more accustomed to looking prospectively at a problem, so that one could think more deeply and meaningfully to some issues stimulated also by these different sources.

The choice of comparing the point of view of a historian and that of a philosopher also stems from my personal training as a teacher of Philosophy and History in Secondary school: to combine different perspectives teaches young students to develop a critical outlook on their daily lives, but more generally on social, ethical, and political issues.

Methodology and Materials

On the one hand, the analysis of some of G. Mosse's main works will show how his so-called 'politics of the squares' is rooted in the economic and values crisis of the First Post-War period, as well as the ability of the Fascist and Nazi regimes to use propaganda (Aschheim 2000). In particular, the latter succeeded in distorting the way Germans coexisted with other fellow citizens, for example those of Jewish origin, homosexuals, or disabled, turning peaceful coexistence into a regime of terror. For the analysis of Mosses' thought, some of the historical facts concerning the political, economic, and social context of Germany in the 1920s and 1930s will be presented. Basically, those will also be useful to understand the value of Nazi propaganda at that time.

On the other hand, the analysis of some of the main works of H. Arendt will show how ideology and concentration camps also led the victims themselves to behave as executioners with other people locked up in the camps. In addition, starting from Mosse's critique of Arendt's 'banality of evil', the analysis will be extended to Arendt's reflections, and these will be helpful to analyse how to prevent tragic historical moments such as totalitarianism from recurring. The concept of the 'banality of evil' was introduced by the philosopher when she wrote the report of Eichmann trial for *The New Yorker*. According to Arendt, the Nazi hierarch acted without thinking critically about the values he was putting into practice.

In conclusion, the final attempt will be made to show how Arendt's perspective is aimed at promoting a plural thought which knows how to pose respectfully towards others: in this way, it will be possible to investigate the value of a thought that can be called 'democratic', in the broad sense of being able to include different ethically correct perspectives, aimed at putting the public good into practice. Furthermore, the purpose in combining these two perspectives will be also to show the value that in-depth analyses concerning historically significant periods have for future events, especially how these will therefore be largely influenced by their cultural-political-historical roots. Starting from the most significant works of these

two thinkers, another aim of the analysis led will be to prompt the reader to observe the same period from different and multiple points of view, to enhance a certain critical capacity and plural understanding of events, namely, to improve a more philosophical way of thinking.

Discussion

The Historical Facts

In order to analyse Arendt's and Mosse's reflections more in detail, it is worth describing some of the historical facts that characterised the rise of Nazism in Germany. Let us briefly review them.

Riding on the nationalist, anti-establishment and anti-Semitic ideas, the Nazi party managed to increase its electorate up to the 35% in a very few years: thus in '33, Hitler was called to lead the government. As previously argued, the Treaty of Versailles was a real incentive for extreme right-wing nationalism, which demanded, according to the very points of the treaty, a return to the territorial and national unity taken away by the victorious countries. Especially, one refers to the division of Germany that was desired through the Danzig Corridor, the cession of Alsace and Lorraine to France, taken in 1871 with the defeat of the Franco-Prussian war and the loss of German colonies. In addition, an incentive for the growing nationalism of the 1920s was undoubtedly the economic repercussions of the huge reparations to be paid to the victorious powers, as well as the dismantling of the naval and air fleet. Furthermore, the crisis of 1929 sanctioned the moral and even political victory of the Nazi party.

The occupation of the Ruhr between '23 and '25 also led the national pride of some Germans to believe that foreign Nations were deliberately attacking the economy and autonomy of German territory. Belgium and France had occupied the richest region of West Germany leading the State to a further economic decline, without the other powers belonging to the League of Nations intervening to stop that armed operation. The occupation of the Ruhr lasted two years and ended with the Treaty of Locarno, signed in 1925 which stipulated that the borders established at Versailles were the valid ones and that war wouldn't considered as a method of solving conflicts among Nations (Vidotto and Sabatucci 2007). But it was with the crisis of 1929, started with the fall of the New York Stock Exchange, that the lifestyle of the Germans began to dramatically deteriorate and about half the population was unemployed. In addition, it should be stressed that the social-democratic Weimar Republic had never been politically stable since it was found. With this crisis, it suffered a real attack by the right political parties allied with the extreme nationalists.

Chancellor Brüning's government drastically reduced the number of people who had access to some social security measures. Promulgated in 1930 and 1931, they imposed a reduction in the wages of workers and civil servants, a reduction in aid to the unemployed, an increase in the age required to obtain this aid (from 16

to 21), the exclusion of women from entitlement to these benefits, a reduction in family allocations, and a 5% tax increase.

In 1932, the crisis reached its peak. Industrial production industrial production fell by half: half of German families had no jobs or employees who could maintain their standard of living. Hence, the adherence to the extreme wings of politics and the discontent with republican institutions increased: the number of members of the Nazi party grew to around 1.5 million. Propaganda is further promoted by the party. The Nazis hold rallies and processions in the squares. Social dissent against the Weimar Republic also grew in proportion to its inability to keep the clashes between Nazis and Communists under control. This atmosphere generates the inability to govern, so new elections were called for the President of the Republic. General Hindenburg was elected. He fought during WW1 and his candidature was proposed to prevent the election of Hitler, who nevertheless achieves the 30% support.

Due to the increasing economic and social instability, two general elections were also called. The Nazis were confirmed as the leading German party with 37% of the vote and conservative groups, particularly the army and Hindenburg, become convinced to govern with the Nazis support, so on the 30th of January of 1933, Hitler was called to head a government with only three ministries out of eleven: as it had happened in Italy with Mussolini, the German conservative parties believed they could keep Hitler under control. Their political judgement was so far from being true. Indeed, Hitler needed only a few months to settle a totalitarian state (Vidotto and Sabatucci 2007).

On the 27th of February 1933 begins the repressive clampdown with the burning of the Reichstag. A Dutch communist was accused, and this provided the government with the pretext for a massive police operation against communists. The party was outlawed, and freedom of the press and assembly were cancelled. After March 1933's elections, parliament passed the so-called 'suicide law': the government could have full powers because it would be able to legislate and amend the Constitution. This, to all intents and purposes, would have allowed the government to legislate without the consent of Parliament. The SPD was also dissolved, and, in July, the Nazi party will be the only one allowed in Germany. The Catholic Church stipulates a concordat with the Nazi government, ensuring freedom of worship and non-interference in the internal affairs of the State. Only in 1937, Pope Pius XI intervenes with an encyclical written in German, *Mit brennender Sorge*, to denounce the Nazi's ideology and practices against Jews¹: unfortunately, it was too late, by then, the regime had long since begun its discriminatory and racist policy.

¹https://www.vatican.va/content/pius-xi/it/encyclicals/documents/hf_p-xi_enc_14031937_mit-brennender-sorge.html.

The Consolidation of Power

Once he became Chancellor, Hitler - in agreement with the conservative forces - obtained their support for election as the President of the Republic, if and when Hindenburg finished his term of office. Between the 29th and the 30th of June 1934, what is historically known as the 'Night of the Long Knives' took place: to consolidate his authoritarian power, Hitler had the SA assassinated by the SS. The latter was a paramilitary group at Hitler's service, sadly famous above all because their members presided over concentration camps and were guilty of crimes against the civilian population (murders, thefts, fires). After the repression of SA, Hindenburg died in August 1934, new elections were called and Hitler elected President of the Republic, which by now had turned into a full-fledged *Reich*, combining both the chancellorship and the presidency of the Republic in a single figure (Vidotto and Sabatucci 2007).

The Persecution Against the Jews and Those Who Dissent

According to Mosse, the persecution of the Jews in Germany built on the presence of a tight propaganda had already begun in the 50s-60s of the XIX century throughout Europe by certain pan-European movements such as Pan-Germanism. Mosse underlines that racism was widespread throughout Europe and not only in the German-Prussian territory, for instance, the sadly notorious case of the *Dreyfus Affair*. The French Jewish officer Dreyfus (1894-98) was charged with the accusation of treason by the French Army. The writer Émile Zola wrote an article, entitled *J'accuse*, in the newspaper *L'Aurore* bringing proof of his innocence (Mosse 2007),² but he was pardoned only by the choice of the President of the Republic and then released from prison. Despite that, he was never found innocent by the prosecution despite having never committed the crime of espionage. In Paris, when the officer was found guilty, many French people poured into the city streets shouting anti-Semite phrases: there were many rallies against Jewish people.

In Germany, the persecution of the Jews officially began with the enactment of the Nuremberg Laws (1st September of 1935), in which the criteria for defining how one person belong to the 'Aryan race' were established: if you had three or four German grandparents, you were German; if they were two, you were of mixed blood, less than two German grandparents, you did not belong to the 'Aryan race'.

Between 9th and 10th November 1938, the killing of a councillor at the German embassy in Paris by a young Jewish student triggered a series of *pogroms*³. This uprising is called 'crystal night' (*Kristallnacht*): about 270 synagogues and 7500 Jews homes were burnt down. The firemen were explicitly ordered not to intervene, except in cases where houses of Aryan Germans were threatened. According to the official Nazi police account, ninety-one Jews were killed. Many more, however, committed suicide that night or in the days immediately following. A high number

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²https://www.treccani.it/enciclopedia/alfred-dreyfus/.

https://www.ilpost.it/2013/11/09/notte-dei-cristalli-75-anni/.

of adult males (twenty-thirty thousand) were taken to Dachau, Buchenwald and other camps that had not yet become extermination camps, but they were – for now – forced labour camps.

From this moment on, the clampdown on the Jews remaining in Germany increased: violence, confiscation of property, arrests. The Jews are considered subhuman and must be eliminated: their systematic elimination would take place from 1942 onwards, established at the Wannsee Conference, with mass deportation and murder in concentration camps (*lagers*). This conference was also attended by Eichmann, the Nazi hierarch whose trial in Jerusalem was followed by Hannah Arendt and whose account was published first in The New Yorker, later in her well-known work entitled *The Banality of Evil*.

Discriminatory practices in Germany also concerned the Jews' cultural productions and, more in general, all that art and culture that came from those who were not considered suitable to promote the ideal of the German Aryan man: the *Entartete Kunst* (the degenerate art) was all that art not representing the ideals of the Nazis' regime. A travelling exhibition was organised in 1937 in which Goebbels participated and in which 'degenerate' works were presented. The exhibition could be visited for free so that everyone had access to these works and could see their moral inadequacy: for instance, there were exhibited works of Jews people, political dissenters, jazz musicians.

Mosse's Reflections

Considering this brief presentation of historical facts in background, the analysis will turn to Mosse's thought about these tragic years in Europe and his reflections about how it all began.

Mosse's biography is only partially intertwined with German history of the '30s and '40s, because he managed to escape from Germany at a very young age, in 1933. He firstly found refuge in France and England, later in the US, where he had the opportunity to study and graduate. Only as an adult he become interested in studying European History, even though, the one of his family is nevertheless linked to Nazism as his grandfather had founded one of the largest publishing houses in the country. Moreover, Mosse's father was ordered to return from Paris after the family was safe, but he refused, even though he was promised that he could live in Germany with his family without being persecuted. Mosse, however, was too young - as he claims - at the time, to understand what was happening in Europe, even if, once, he took part to a rally organized by the Nazi's party. He was so caught up in what was going on that he found himself ranting against the Jews: this example, quoted by Mosse himself, shows how engaging Nazi propaganda was in Germany (Mosse 2004).

When he approached the European history of '20s and '30s, some years later, the aim of the historian was to delve deeper into the historical, economic, and cultural facts which led to the affirmation of the great European totalitarianisms (Gentile 2007). Although Mosse's reflection focuses on all of them, this discussion will only concentrate on Nazism, because it is in relation to this that Mosse

criticises Arendt for her definition of the 'banality of evil' and because it could be compared with her thought about racism, propaganda and concentration camp.

According to Mosse, the roots of the crisis of European institutions originated in the years just after the First World War, thanks to the Nazi party's ability to make the population feel united by myths, sagas, traditions that everyone found in their own culture (Mosse 2004, Herf 2000)⁴: a new aesthetics of politics had already begun in the 19th century but peaked with the great totalitarianisms of the 20th century (Mosse 1999). Interpreting Mosse, one could say that Nazism had succeeded in uniting the population after the collapse of the state due to the failure of the democratic policy of the Weimar Republic. Nazis had succeeded in making the unity of the German people seem like to be rooted in tradition, namely, as if it had always belonged to the people themselves (Mosse 2004). Thus, the people felt part of the political project to redeem Germany through party propaganda. At a time of crisis, Nazism had managed to give hope for the reconstruction of a shared project, namely the supremacy of the Aryans over the rest of the population.

His considerations show what led to the rise of political parties capable of extolling the lost national unity, as well as the return to traditional values, significant for the ethical formation of the younger generations. These elements were the ability of Nazis to identify what people should have perceived as licentiousness and, therefore, a crisis of moral values by people combined with the severe economic crisis due to the war (Gentile 2007). For instance, the Nazi party evoked the values of virility, of the bourgeois family with pre-established roles, against those who advocated greater freedom in interpreting these same roles.

It should be emphasised that Mosse also shows the contradictions of this type of propaganda, arguing that Nazism and early fascism wanted to precisely dismantle the bourgeois system of values. As time went on, these totalitarian parties changed their roots, since it was precisely from this class that they gained the most support. Thus, they change their previous value system into one more suited to those who supported them (Mosse 2019, Gentile 2007).

Mosse also analyses the phenomenon of Nazism starting from the propaganda ideals which the party proposed. He was very concerned in analysing the connection between racism spread all over in Europe during the XX century and the advent of a crisis, political or economic or both (Herf 2000). Furthermore, he argues in some of his works that this regime was able to make Germans feel part of a project that aimed to realise the greatness of Germany itself at the expense of those populations considered inferior as the Slavs or of those Nations that claimed its dissolution at the end of the Great War thanks to the Treaty of Versailles. This pact was perceived as a *diktat* by the nationalist fringes of the population, for example by the nascent National Socialist German Workers' Party (NSDAP), whose ranks included a young Hitler who later wrote his *Mein Kampf* in 1925. In this work, he openly declared that the victorious powers of Versailles had wanted to make German power null and void and that, therefore, the German people would have to prove their worth and strength against these traitors. That treaty is

⁴Here, Mosse deals with the role of the myth for Huizinga and the way in which these myths are implicitly bound to reality and to people.

described as shameful and repeatedly violated by the victorious Nations to the detriment of Germany: one of these violations happened with the occupation of the Ruhr by French and Belgian armies, without any power taking the side of the Germans (Hitler 1940, pp. 122, 147).

Mosse: Street Politics as a Response to the Economic Crisis

Mosse's analysis of totalitarianism deeply discusses the role which the economic crisis played in causing racism to explode in Europe, especially in those countries, Germany and Italy, where the political situation was also unstable after the end of WW1.

In his analysis of the roots of totalitarianism in Europe, Mosse identifies the moments of crisis as the moments when 'the politics of the square', as he calls the 'liturgical' politics enacted by Nazism and Fascism, was born precisely as a response to the bewilderment caused by the frequent economic-political-social crises (Mosse 2004). "Racism was the true, unique 'people's church' that would take the place of Christianity" and the racist doctrine pitted the 'beautiful Aryan' against the Jews (Mosse 2007). Totalitarianism had replaced the Christian liturgy with that of the party, so that everyone professed the same shared cult, so much so that - for example - Pope Pius XI would call fascism a 'pagan statolatry' (a definition that could also be indicative of Nazi practices)⁵. As far as Mosse is concerned, the politics of the square, tied to racism, is most effective where the feeling of bewilderment due to political instability is greatest: this was the case of Italy and Germany after the First World War⁶. This already dramatic situation has worsened due the crisis of 1929 and to a climate of distrust in liberal institutions. Mosse believes that racism was also present elsewhere, for example in France, but in more economically and politically stable countries, in his opinion, racism seems not to have become an instrument of politics to try to rebalance itself.

The great attraction of totalitarian regimes was to create a sense of stability where there was only fear of how the future would shape up. The liturgical politics of the regimes was able to restore meaning to people's lives that were framed within organised systems: a clear example, according to Mosse, is that of the new calendar introduced by Nazism and Fascism with anniversaries that were added to the Gregorian calendar. One thinks, for example, of the March on Rome in 1922, a date from which the fascist regime had begun to count the years of the new fascist era, so much so that it was planned to redevelop the EUR district for the international exhibition that was to be held in 1942 - if there had been no war - and that would have celebrated 20 years of the new fascist era. In the case of the Nazis, Mosse points out that houses in Germany during the regime could have spaces in which to find paintings or pictures of Nazi hierarchs accompanied by flowers or candles as altars. Similarly, speeches organised by Hitler were reminiscent of church services: audiences gathered in front of the führer's altar (Mosse 2014).

⁵https://www.vatican.va/content/pius-xi/it/encyclicals/documents/hf_p-xi_enc_19310629_non-abbiamo-bisogno.html

⁶See also Gentile (2009).

Politics was transformed into a secular religion that finds salvation for the people it protects at the expense of its enemies. Mosse points also out that racism was the instrument able to help this regime in becoming a lay religion, because the Nation was united in its attempt to eliminate those who sought to undermine the integrity of the race and its shared values (Mosse 2007).

The characteristic of regimes, then, was to create unity where post-war and economic crises had created disintegration, restoring confidence to the people of nations bent by these same crises.

The Dehumanisation of People

In such a historical-political time, certain categories of people were seen as disruptive to the State, elements that had to be eliminated for the Nation to be united against the economic and political crisis. Therefore, propaganda focused on dehumanising certain groups, so those who adhered to some racist ideals would become less sensitive to their capture and murdering.

During the 30s culturally and ideologically, in Germany, the Jews were often described with dehumanising characteristics, namely they were compared, for example, to worms undermining the integrity of the German state, or without strength – like women, unlike the vigorous German man: for this kind of living being, a person could feel only disgust and repulsion (Nussbaum 2001, 2011)⁷. The undesirable was also often described as a criminal, as an individual damaging society: it is possible to refer to the propaganda of the journal *Der Stürmer*, weekly published from 1923 to 1945, which often described the Jews in its caricatures as murderers of the State, or butchers of Europe, showing them as a threat to the social and political life of the host Nations.

Exclusion from the community should be foreseen for these people precisely because they represent a constant danger to cultural unity and socio-political stability.

The dehumanisation of Jews people (as well as the one of political opponents, homosexuals, people with disabilities) was also carried out in the concentration camps: Mosse claims that, here, the SS tried to trigger behaviour that would make an imprisoned person to behave meanly towards other prisoners. This was to corroborate the idea that Jews were narrow-minded people with dubious moral values. They were not considered like decent people with a shareable or bourgeoise value system, if they were fighting each other for a meagre ration of food (Mosse 2007, pp. 230–242). Moreover, the conditions under which they were transported to the camps, the fact that when they arrived there, they were got undressed and sorted like meat of slaughter, made them look like beasts to the guards. Certainly, they struggled to recognise themselves as human beings, and they weren't seen as actual people by their executioners and also by their fellows.

⁷For a more in-depth discussion of the concept of disgust in Nussbaum, see Callow (2014) and Bertolini (2016).

Arendt's Reflections

The reflection on Arendt's thought will show another way of analysing totalitarianism and will deepen and expand on the considerations proposed by Mosse. The focus will be on Nazism because the philosopher had to leave her homeland due to persecution, also because she is an important thinker who investigated this tragic historical moment in the early '50s. Lastly, because Mosse criticises her concept of the 'banality of evil', and his critique will allow us to further explore this concept. The analysis led will emphasise the importance and complementarity of the two thinkers in their critical analysis of German totalitarianism.

The concept of the banality of evil was extensively explored by Arendt in one of her main work, *Eichmann in Jerusalem* (Arendt 2001). The publication of the Eichmann's trial report provoked her many critiques, precisely because she claims that the Nazi hierarch acted without critically thinking about what he was doing. Arendt never wanted to polarise the evil that Eichmann had committed – as it was thought, but what she did want to argue was that if he had any good moral values rooted in his conscience, he would have opposed what he was being asked to do. According to Arendt, being able to critically think implies the ability to discern the good values to put into practice while avoiding those that make other people suffering; thus, Eichmann is associated with the concept of the 'banality of evil' because he failed to deeply think about the actions he was carrying out⁸.

The analysis led will focus on two of the main aspects of Arendt's thought about the responsibility of those who act in the political realm, one concerning the executioners (e.g., the SS, Eichmann) and the other concerning the victims (the prisoners in the concentration camps who, at some point during their detention, were involved in harming their fellows, as Mosse meaningfully also highlighted).

Totalitarianism and its Consequences

A broad selection of Arendt's writings explore totalitarianism, but we will focus mainly on *The Origins of Totalitarianism* (Arendt 2009) and the considerations led in *Philosophy and Politics* (Arendt 1990). Regarding the former, Arendt's analysis shows that her point of view is to locate the origins of totalitarianism not in the more recent past, but to trace the phenomenon back to the Imperialism and racism that had been widespread in Europe since the 19th century. The European powers, seeking to impose their national pride, found a way to make this desire effective by focusing on the conquest of countries deemed culturally, economic, social, and political inferior, such Asia and Africa. The

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⁸According to Arendt as well as for Socrates who is one of the ethical-political models she esteems more, the rational capacity with which people are endowed makes them capable of not harming others by practicing just moral values. However, it must be emphasized that this intellectualism often clashes with the real possibility that there are people who know what the right thing to do is but decide not to put it into practice.

racism of some who focused on conquering territories outside their national borders was concentrated both against those who were considered inferior, but also towards Europeans belonging to other States. Arendt points out that the Anglo-Boer War resulted in the first concentration camps used by the British to force the defeated Dutch work and lock them up: in these camps, people were completely excluded from their socio-political context and the same rights as other citizens no longer apply to them. Referring to this tragic moment in history, the philosopher shows how, already by the end of the XIX century, practices of racism and exclusion of some groups existed to make the labour and exploitation camps places where violence and terror prevailed, in which the rights reserved for other human beings were no longer respected. People in there were no more considered an essential part of the free common political realm.

The Origins of Totalitarianism shows that totalitarianism deprive a person of one of the main aspects which Arendt considers for politics, namely the value of sharing a common space so that everyone can actively participate in the political life itself. By producing alienation and isolation, totalitarianism makes people unbale of dialoguing with each other, of finding a shared public good and consciously maturing an effective critical thinking helpful for a more democratic political action., Terror, ideology and concentration camps are means by which totalitarian regimes have obtained the consent and estrangement from public life of certain categories of people.

The former is a way of imposing the biological law of race supremacy by sacrificing individuals for the group (Arendt 2009). Totalitarianism, through terror, eliminates freedom and especially its source. This is the birth of people and what they represent, namely a new beginning, new sharable ideas, and points of view from which observe social, cultural, and political issues. It introduces objective criteria in selecting victims and executioners and prevented people from developing personal and subjective convictions.

Ideology makes this beliefs' depersonalisation possible by showing what totalitarianism sees as the true meaning of history, namely that the best survives all others. People's actions, therefore – even the most terrible – are justified with a view to this goal. Thus, the subjects of the totalitarian regime go so far as to sacrifice other individuals or be sacrificed in their turn according to the supposed selective law of history (Arendt 2009).

Terror and ideology are two sides of the same coin: if people do not have a deep-rooted and just value system, they will be inclined to commit ignominious acts. They will justify these actions out of fear of being killed and may even turn into the worst executioners.

Concentration camps are the realisation into practice of the logic of terror: they are what allowed the elimination of people spontaneity and of their credibility.

Concentration Camps and Their Role in Totalitarianism

The horror of the camps is unimaginable, so no one would be willing to believe what the victims recounted once they were liberated. So that, the experience of the camps remains untold, namely everything that happened inside the concentration camps is unbelievable: this general disbelief about what happened isolates who lived in them in such extreme condition (Arendt 2009). Therefore, those who went through this same experience will feel cut off from the human common space and will not feel understood by those who did not share the same situations. As far as Arendt is concerned, this incommunicability of experiences prevents people from sharing the same ethical-political space, which also creates isolation and separation between people. But, in Arendt's view, the possibility to interact with people is what can contribute to the improvement of the shared public realm. By making people strangers to each other and by making their experience incommunicable, concentration camps prevent dialogue and iteration between free people.

Furthermore, the violence perpetrated within the camps turns the victims into executioners: the individual seems to be no longer master of his own conscience, as happens when some internees are forced to commit crimes against other prisoners and do not rebel against the demand. Moreover, in there, the uniqueness of each person is annihilated: this happens on several times, for example, when people are crammed into trains naked, clinging together; on arrival at the camp, when everyone is shaved; during their stay, when they are slowly worn down by unimaginable torture (Arendt 2009). Concentration camps radically separate people from the public shared space, that space within which, by acting, one becomes socially and politically visible. They radically eliminate the possibility of new beginnings and changes for political life.

Arendt's analysis focuses on both the SS and the prisoners living within alienating logics which led them to act in unexpected ways. The former, the socalled executioners, act as Arendt describes in *The Banality of Evil* (Arendt 2001), i.e., without questioning the moral and political principles imposed by Nazism. They accept them feeling gratified by being involved in the logic of the State power. This is Eichmann's case, who is described by the philosopher as a person incapable of criticising the value system imparted to him. With regard to the figure of Eichmann, it should not be forgotten that, at the time of its publication, Eichmann in Jerusalem (Arendt 2001) aroused quite a bit of controversy both within the public discussion and within Arendt's friends because of the definition of 'banal evil' she proposed: this was often misunderstood and interpreted as a trivialisation of what happened in the Nazi era (Arendt 2009, Young-Bruehl 2006). Mosse was also very critical of Arendt's concept of the 'banality of evil' because he believed that the people involved in the regime's criminal actions acted because they were convinced of what they were doing precisely because the propaganda system had shown them that these individuals were detrimental to the economicsocio-political growth of the Nation (Gentile 2007). People were educated, they were accustomed to seeing images, to hearing slogans that recalled the unity of the race, the greatness lost through mixing with people of other ethnicities and that reminded them that Germany's greatness depended on the ability of its people to remain united (Mosse 2004). By attributing this role to propaganda, Mosse would like to emphasise that those who acted were deeply responsible for what they did while being equally deeply influenced by the propaganda promoted by the regime.

Unlike what emerges from these considerations about some interpretation of Arendt's banality of evil, it worth noticing, she would have liked us to focus on the kind of agent who should contribute to political life, namely a person capable of an inner moral dialogue. Certainly, according to her, this is not the kind of agent who only obeys orders given by others or, echoing what Mosse's critique highlighted, a person who acts because they are ensnared by propaganda.

In Arendt's view, critical thinking which results into political action takes place in solitude and requires that, once formulated, thoughts must come to light in the form of judgement and be compared with those of others who share the same public realm, namely other just citizens who want to contribute to the common good (Arendt 2003)⁹. When Arendt proposed her definition of the 'banality of evil' and discussed the miserable conditions to which prisoners in the camps were subjected, she wanted to invite to reflect on the importance of questioning those principles that are detrimental to others. According to her, only by trying to act according to morally correct principles with respect for others will it be possible to avoid catastrophic events such as those that occurred during totalitarianism. This will be possible, since people would be invited to follow good moral principle safeguarding the good of others as well.

What is objectionable about her vision is that it is decidedly optimistic, describing agents who are predisposed to perform morally correct actions for the good of others; people who take an interest in the political sphere and actively participate in the construction of the public good. However, it should not be forgotten that people who take part in public life could not always aim at the common good. Some – like Eichmann did, for example, find themselves taking part in political decisions without having firm and correct moral principles.

Nevertheless, the one of Arendt is still an interesting reflection because she openly criticises all those who would act in a public context without having a value system that is respectful of correct moral principles and of the other fellow citizens (Arendt 2003). Her reflections show agents who want to actively participate to the public life and their political actions could be considered truly democratic, in the broader sense of respecting the opinion of their fellows and seeking a common good (Arendt 1998)¹⁰.

Conclusions

The analysis carried out had shown how two authoritative sources tried to explain a tragic historical moment of the 20th century that led to an in-depth reflection on responsibility of individuals, and also on people's inability to critically

⁹For a more in-depth discussion of the concept of judgment in Arendt, see Steinberger (1990) and Palazzi (2015).

¹⁰For a critical account of Arendt's democracy, see for example, Wolin (1983).

think and act accordingly to their values. Arendt and Mosse were similar in considering the role of racism during the Nazi's regime and in emphasising that – for both – racism was a component extensively exploited by the Nazi regime to produce the right conditions for the dehumanisation of those who were interned in concentration camps. Furthermore, Mosse's critique of Arendt was the opportunity to shed light on the internal debate among those who studied these issues in the years following these tragical facts.

On a methodological level, the choice to compare these two of the main sources who discuss the same facts was intended to contribute to help the reader in engaging a thinking activity which can be defined as 'philosophical' in the sense of critical and plural, capable of grasping different nuances of the same issue. As Arendt tries to explain when she criticizes Eichmann, this way of proceeding allows one to think thanks to an enlarged mentality (Arendt 1987)¹¹, i.e., a mentality capable of accepting methods other than one's own to investigate facts or even certain ethical-political issues. Therefore, the choice of showing how Mosse and Arendt discusses the main issues concerning totalitarianism and their attempt to identify the causes of this tragic and dark moment in history should serve as a more general example of how philosophy conceived as an investigation method should be. That is an attempt to look at the same issue from different perspectives, in a multifaceted manner. For example, starting with Mosse's critique of Arendt, it was possible to investigate the concept of responsibility and critical thinking, considering them in a more in-depth and multifaceted way. This approach is the one that could be proposed as a method to investigate historically, socially, ethically, and politically important issues, so that people can acquire a capacity for democratic interaction, where the word 'democratic' means a certain ability to understand the points of view of others, trying to find a mediation between the parties, fully respecting the interlocutors who intervene and are involved in the debate.

Of course, a thorny question remains open, specifically the one which concerns the kind of agent Arendt thinks could contribute to the constructive dialogue which represents the good model of political interaction. It should be emphasised that, in her view, only those have good moral principles should take part in the debate aiming at a common good. In this way, Arendt would seem to exclude some people from this constructive debate. Namely, she would leave out people who were unable to critically think, to be able to choose the correct, respectful values that make them worthy of participation in public debate. While this is Arendt's perspective, one could optimistically try to think of approaching a further goal. Specifically, that of engaging people with points of view other than their own in a more open dialogue, teaching them to exercise, from an early age, the ability to listen and compare; using, for example, as it already happens in many institutions, the debate method at school. Hannah Arendt's reflection is not the only one in the history of the contemporary philosophical-political thought to conceive the public dimension as a sphere of dialogical and respectful exchange, in which people who do not democratically want to participate may be excluded. Therefore, the thorny

¹¹For a more in-depth discussion of the concept of 'enlarged mentality' in Arendt, see Moynag (1997).

issue seems to remain without a solution. However, a possible one seems conceivable, again referring to the philosopher's thought. It worth noticing, that Arendt's reflections on the Ancients allows us to link her critique of those who do not critically think to that method she considers to be the foundation of democratic thought, namely the dialogue with oneself and with others ¹². Indeed, in her view, those who think in such a way as to preserve other lives and thoughts, avail some Socratic principles evoked in Plato's *Gorgias* (482b-c): they are useful to understand what she conceives as deeply think to a good and just system of values. These principles require not to commit injustice actions and to always act according to a correct value system and respectful of others.

Thanks to these considerations we can understand why dialogue could be a kind of method suitable to build up a respectful participation in political life, and a method that can be taught and learnt, thus extending the possibility of taking part in the political debate itself. Through dialogue with themselves, people can imagine different situations and values that might guide their actions; they can achieve a certain level of identification, thinking about what other people's thoughts might be. This imaginative capacity allows them to think about what value systems should be practiced in the political realm, which value systems are characterized by non-violent outcomes and allow a democratic exchange of opinions (Arendt 1989). For example, even at school, by having people actively participate in debates, from a very young age, they could be encouraged to look at an issue from several points of view and learn to respect their peers for their positions without using violent means to resolve a conflict.

This may just be a wish for the future, but perhaps it would be worth investing more in the study and analysis of those philosophers or thinkers who have been able to suggest non-violent methods to resolve ethical and political issues. It would be important to analyse reflections that can make people critically think about issues of public interest and make them more open to accepting suggestions from others who share the same interest in improving the public common space.

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¹²For some considerations on the role of dialogue among those who participate to a rational discourse in the political sphere, so those *who want* to take an active part *in a democratic and constructive dialogue* see, e.g., Habermas (1996).

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Genealogy of Ancient Philosophy in View of the "Great Quarrel": Towards an Expository Essay

By Dagnachew Desta*

This article attempts to offer a critical account of the genealogy of ancient Greek philosophy in its bid to transcend the old ruling mythopoeic culture. With this in mind, emphasis is given more to the speculative character of Greek thought rather than its technical and detailed aspects. In my account of the origin of Greek philosophy, I use Plato's famous pronouncement (Plato, The Republic, Tenth Book) about the great quarrel between philosophy and poetry as a context to provide my analysis. In dealing with the question at hand, I develop the following interrelated claims. First, Greek philosophy made its appearance in the struggle against the mythical background. Here, even though early philosophy tried to move beyond myth, it did not completely transcend the world of mythology. Second, in dealing directly with the quarrel, I identify two issues (problems) as the basis of the conflict: A) the essence of the divine and B) the nature of the universe. Third, I sum up my article by making the following claims.

- 1) Greek philosophy took the crucial step in trying to explain the cosmos (world) by introducing a single fundamental principle.
- 2) The transition from traditional mythology to a rational account of the origin and nature of the universe is not the work of a single thinker but the effort of many philosophers over the generations.
- 3) A proper account of the transition is best explained if we approach it as a result of the process of "continuity in discontinuity".
- 4) Early, Philosophy is not so much about the triumph of reason and science, but the conceptualization and differentiation of mythic cultures. Thus in a way, Greek philosophy emerged along with mythic culture against 'mythic culture' at the same time.

Keywords: physis, nomos, arche, physiology, aperion, mythology, anthropomorphic

Introduction

The central purpose of this article is to examine the beginning of ancient Greek philosophy in its endeavor to move away from 'myth' to a 'rational' view of the world. There are obviously different approaches to address this issue. On my part, I shall pursue my exploration by focusing on Plato's allusion to the "great quarrel" between philosophy and poetry. I use the 'quarrel' as a thread to maintain the unity and perspective of my investigation.

I submit that when we delve deeper into the particular details of the quarrel, we shall see clearly that Greek philosophy is "a bridge between the world of myth and philosophy". Before, I embark on the direct thematic structure of my paper; I would like to add the following preliminary points to my account. First, there is no

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doubt that philosophy emerged after subjecting mythology to some sort of philosophical investigation Second, in spite of such a trend though, the deeply seated tension between poetry and philosophy should not be perceived merely as conflictual and antagonistic.

The main theme of the first section is centered on the question of human and divine knowledge. Here, we shall see how the dependence of the poets on the gods as the source of knowledge is progressively shifted to the phenomena of human "self-effort".

The second part involves mainly about the issue of the "discovery of nature by the philosophers". In this connection, emphasis is given to the introduction of the concept of 'regularity' and 'inevitability' in nature. I submit that the idea of regularity is introduced along with the overthrow of the notion of supernatural forces as pivotal power that "steers and shapes the world".

In the third part, I offer my own conclusion about the issue at hand. When we link together the various elements that we've assessed so far, I believe that the following viewpoints stand out unmistakably. First, there is no doubt that ancient philosophy moved away from mythical presentation to some sort of rational account of the world. Second, the difference between myth and philosophy is not clearly demarcated to warrant a radical break between the two traditions.

The Great Quarrel

Plato declared that there was an ancient quarrel between philosophy and poetry. Whatever may be taught of Plato's pronouncement, we find without doubt traces of "poetical imagery" in philosophy and "conversely, there are few of the great Greek poets in whom we don't meet with reflections indicative of a decidedly philosophical habit of mind" (Adam 1965, p. 3). In any case, the obvious question we face is that given the presence of philosophy and poetry in each camp, how do we account for the source of the quarrel?

In order to address this question, we have to revisit in some detail the contentious basis of their rivalry. Most agree that the "quarrel" wrests: A) on the question and essence of the 'divine' and B) on the origin and nature of the universe (cosmos).

In what follows, I shall come to the details of the quarrel using three outstanding scholars in classics, philology, and history of philosophy. I believe that these thinkers namely Bruno Snell (The Discovery of the Mind); Hans Georg-Gadamer (Beginning of Philosophy) Charles H. Kahn (The Art and Thought of Heraclitus) have rich knowledge and clear insight into the problem I'm addressing at this juncture. In addition, I would also like to mention here, that I've immensely benefited from attending the lectures of Hans-George Gadamer and C. H. Kahn on the general subject of Greek philosophy that was offered at Boston College.

(I)

Charles H. Kahn

Wherever we speak about the pre-Socratics, we find two opposing views that have existed side by side albeit in critical tension for a long period. The first tradition: - is known as "popular tradition" which is primarily represented by poets, bards, sages, etc. Solon could be taken as exemplary of this school since he was a poet and sage at the same time.

The second perspective consists of the new scientific culture that originated around five century B.C. Accordingly, this movement is supposed to represent the first wave of enlightenment.

To be sure, both traditions share an underlying assumption about the concept of the divine. They (poets and philosophers) accept the fundamental difference that lies between the divine and the human. The divine is perceived to be superior in many respects in that even when the gods are perceived to have a human form their superior nature in almost all things compared with human beings is maintained. Human nature for example is finite and hence chiefly characterized by its mortality. Both traditions also believe that the divine is an important ground for interpreting and understanding Greek culture.

Here though, even when they agreed on the superior nature and importance of the gods, the philosophers refused to embrace the perception of the gods as "divine genealogies and family connection" (Kahn, 1983, p. 11), who governs the universe as they see fit. In contradistinction to the poets, the philosophers postulated an alternative "ruling principle" that reduced the ability of the gods to intervene in the affairs of mortals and the universe alike.

Ethics

On the ethical front, we also find a shift from the Homeric perspective to a new moral ideal of the philosophers. The transformation of values took place around the concept of 'Arete'. We find two leading principles of Homeric Arete: The first moral maxim exhorts "always be first and best and ahead of everyone else" (Kahn 1983, p. 12). The second maxim calls for a Homeric hero: "to be a speaker of words and a doer of deeds" (Kahn 1983, p. 12). Both ideals go on to emphasize individual achievement which glorifies military and athletic prowess.

The other moral ideal is developed around the notion of "Sophrosyne": we find "in epic poetry sophrosyne (in its old form saophresyne) has the literal meaning of 'good sense' or 'soundness of mind; the opposite of folly..." (Kahn 1983, p. 13).

This is quite the opposite of the Homeric concept of excellence. As opposed to the glorification of individual valor, the new moral ideal call for self-constraint and moderation. Thus, an appeal to self-knowledge, temperance, and the rejection of excess of any kind is promoted in this moral ideal. In sum, a clear distinction between individual and social virtue emerged with the notion of Sophrosine, i.e., "the virtue of achievement was constrained by the virtue of self-restraint. In sum,

"the important fact is that both views, the selfish and the social conception of Arête, and the deep tension between the two, were there in the moral blood stream of the Greeks long before philosophy appeared on the scene" (Kahn 1983, p. 14).

Law

Later a new form of tension arose following the discovery of the division between 'Physis' and 'Nomos'. After identifying physis as the basis of all normative values, the new thinkers rejected the moral belief that is grounded on Nomos. As far as the concept of 'Law' goes, we find two similar and yet different notions and attitudes. Consider Hesiod and Heraclitus who respectively represent the old and the new school. Hesiod: - adheres to Zeus's order to follow justice and avoid violence: "For to fish and beasts and winged birds he gave the rule (nomos) that they eat one another, since there is no justice among them; but to human beings, he gave justice (dike)" (Kahn 1983, p. 15). Thus, the animal world is not governed by the rule (nomos) where they eat one another since the concept of justice does not apply to them.

When it comes to Heraclitus who represents the new tradition "justice applies to every manifestation of the cosmic order" (Kahn 1983, p. 15). Hence, we find the first theoretical salvo that laid the ground for the natural law theory.

Hans-Georg Gadamer

The Romantics interest and emphasis in studying original texts lade scholars to examine the 'pre-Socratics' in a new light. In this connection, credit should be given to Hegel and Schleiermacher.

Hegel as it is well known was a great philosopher and a great historian of philosophy. The pre-Socratic's received particular attention in his famous lectures on the history of philosophy. Most agree that "the historical research into classical philosophy began with Hegel in the nineteen centuries" (Gadamer 1998, p. 11). Schleiermacher also introduced a new approach to the study of classical philosophy: - "He displayed not only great erudition but dialectical and speculative thinking that combined with impressive classical and humanistic erudition" (Gadamer 1998, p. 12).

Whenever we are engaged in formulating the beginning of philosophy, we ought to have some clarity about its meaning. Here, we believe that Plato is useful to start our probing: - he defined philosophy "as a sheer striving after wisdom or truth" (Gadamer 1988, p. 15). Hence, philosophy received its permanent feature of not being about 'possession' but rather about a quest for knowledge. In this regard, the philosopher is mainly the one who is engaged in theoretical contemplation (Aristotle). Consider Anaxagoras – when asked what he understood about happiness, he replied that happiness for him is nothing but meditation about the stars.

The Pre-Socratic philosophy is closely associated with the concept of 'principium': there is general agreement that the Pre-Socratics are the 'principium' of Western speculation. What does 'principium' mean? We find different interpretations of the concept in the tradition. For instance, the Greek term 'Arche' carries two notions of principium i.e., temporal and speculative or origin and

logical respectively. When we come out of the Greek usage and move to scholastic tradition, 'principium' literary means philosophy.

Leaving out the different and varying definitions of the term, let us confine ourselves, "to the meaning of "principium" in the sense of "beginning" (Gadamer 1988, p. 13). Now, when did pre-Socratic philosophy begin? In his account, "Aristotle also mentioned Homer and Hesiod, the first "theologizing" authors, and it may be correct that the great epic tradition already represents a step along the path toward the rational explanation of life and the world, a step that is then fully initiated by the pre-Socratic" (Gadamer 1998, p. 13).

This description may reasonably be taken to be true, but when we probe further into "far more obscure precursor we find "language, spoken by the Greeks" (Gadamer 1998, p. 13) as the "principium" of Greek philosophical culture. Since language is closely associated with poetry, we can develop this point by addressing the status of poetry and philosophy.

Poetry and Philosophy

'Theology' was the chief preoccupation of the mythopoeic tradition in ancient Greece. Most students of this period refer to it as the 'era of Homeric religion'. Here it is worth mentioning that Herodotus also credited Hesiod and Homer for "giving the Greeks their gods" what the historian meant was that they created" "a unified image" of the scattered form of religion" (Gadamer 1985, p. 57).

Aristotle also called the ancients poets as the first 'theologians' who offered a comprehensive speech about the gods. As the term "myth" indicates, they were storytellers who spoke about the gods and offer dramatic narration about the human saga. It is commonly held that the rivalry between the two traditions began as rival representations of the image of the divine. Thus, the poetic and philosophic interpretation resulted in "endless rivalry throughout the whole history of Greek enlightenment" (Gadamer 1985, p. 59). With the rise of the new generation of thinkers, we encounter different narratives about the universe and the gods. Hence, we notice that the new way of speech about the gods "is what is later called philosophizing" (Gadamer 1985, p. 59).

This naturally put heavy pressure on the old school. On another front, the philosophers preferred theory over and above "mythology" which resulted in different and competing ways of experiencing and understanding reality. Here, we should be cautious not to view the relationship solely as external: whatever may be thought of the new thinkers, they were not scientific in the modern sense of the term. To be sure, their 'bold curiosity' and rational bent enabled them to come up with a new explication of the divine and cosmos.

Thus, Plato's designation (the great quarrel) was something to be taken seriously. As I have tried to show above, he was referring to the two contending schools i.e., between the mythopoeic and the rational way of interpreting the world. This is the first wave of enlightenment where "the struggle between the knowing of the divine and the knowing of reality played itself out" (Gadamer 1985, p. 59).

Bruno Snell

"Human nature has no knowledge but the divine nature has" (Snell 1982, p. 136).

The ancient Greeks believed that absolute knowledge is a special attribute of the gods. The divine's exclusive monopoly of knowledge is quite obviously accepted by both the poetic and philosophic traditions. The belief in the acceptance of God as the sole owner of knowledge and wisdom run through the Pre-Socratic thinkers up to Plato and Aristotle.

The ancient Greeks believed that absolute knowledge is a special attribute of the gods. The divine's exclusive monopoly of knowledge is quite obviously accepted by both the poetic and philosophic traditions.

Let's begin with Homer's well-known incantation: "Tell me now, Muse that dwell in the place of Olympus—For you are goddesses, you are at hand and know all things, But we hear only a rumor and no nothing-- who were the captains and lords of the Danaans" (Snell 1982, p. 136).

The poets have access through the muse to the voice of the divine. This communication was widely acknowledged in ancient times. It is believed that the muse provides the poets with information that they transform into their respective art. The ever-present muse enables the poets to recite (recount) historical events as if they were present when the story takes place. In the Odyssey Homer proudly states that "no one has taught me but myself, and the god has put into my heart all kinds of songs" (Snell 1982, p. 137).

The poet is dependent on the muse, he needs her council and advice to broaden and enrich his/her limited experience. Plato in the IO says "God takes away the mind of these men, and uses them as his ministers, just as he does soothsayers and godly seers, in order that we who hear them may know that it is not they who utter these words ... but that it is God himself who speaks and address us through them" (Verdenius 1972, p. 4).

We should take Plato's analysis of the poet's divine inspiration with a few important qualifications: i) The gods do not reveal everything they know to human beings: Human beings should strive to attain 'truth' by their own effort. ii) Even though the poets receive counsel, wisdom, and divine message, it does not mean that he or she is "no more than a speaking tube in the mouth of the muse" (Verdenius 1972, p. 5).

This means, even though the poet is dependent on the divine and relays heavily on them, this does not mean that he/she slavishly "reproduces a divine message, but it is the result of a contract in which divine as well as human activities are involved" (Verdenius 1972, p. 5).

Hesiod

How did the poets and the philosophers see their relations with the Divine? Let us take briefly Hesiod, Xenophanes, and Heraclitus as representatives of the two rival traditions and review what they have to say about the issue at hand. Hesiod – begins his Theogony by making the following statement:

"Shepherds of the fields, wretched things of shame, mere bellies, we know how to say many false things as if they were true, but we know, when we will, how to utter true things" (Snell 1982, p. 138).

Hesiod confidently asserts that it was he that the muses selected to honor and provide him with a special gift to enrich his art. He strongly believes that he was endowed with a unique kind of talent that no one can match. His songs and poems were all the result of the instructions he had had from the muses. He took himself to be the chosen one in the sense that unlike most of his fellow rhapsode, he was the only one who is able to report the truth. He believes that way beyond the reach of other poets, he is the sole recipient of truth. On the other hand, he confidently asserts that the songs of other bards were replete with falsehood and untruth.

The Muses admit that "they know many false things which resemble the truth. In his case though, the Muses pass to him the truth. He considers himself special in that, "his knowledge in fine stands "halfway between the Devine knowledge of the muses and the human knowledge of the fools" (Snell 1982, p. 139).

Heraclitus

The move that rejected the Muses as the only source of knowledge was progressively continued by Heraclitus. Thus, unlike any thinker before him, he clearly advanced the theory that the muses were not, the main source or foundation of knowledge. He also made a significant shift in interpreting the divine "more abstractly as mind" and the "ultimate goal of human knowledge". Before he explored his own position about human knowledge in general, he attacked the epistemic assumptions of the poetic tradition: He did so first in his rejection of the tradition of "polymathy" and in his critic of the senses.

For Heraclitus: "much learning (polymathy) does not teach anyone to have intelligence (noos); for else it would have taught. Hesiod and Pythagoras, and again Xenophanes and Hecataues" (Snell 1982, p. 144). Thus, to start with, he contends that the goal is not to seek to know many things but to understand the one principle that steers "all things".

Second, even though philosophers must strive at attaining the knowledge of many things, Heraclius believes that unless we have properly trained souls, we would undoubtedly fall into error. In one of his fragments, we are reminded that "eyes and ears are bad witnesses" for men if they have barbarian souls (Snell 1982, p. 145).

The Logos

When we move to his constructive side, we find the concept of logos to be at the heart of his philosophy. The logos is part material and part spiritual. It is "the fundament of which speech is only the super-structure" (Snell 1982, p. 144). It is neither 'experience' nor the message we receive from the Muse that gives us knowledge. For Heraclitus, way above and beyond human experience, the other dimension that enables us to attain knowledge is our own ability to participate or

"partake with the divine". Thus, we need to be attentive and listen to the logos: "The Devine element is anchored in the depth of soul." for this reason, he says "I searched into myself" (Snell 1982, p. 145).

In sum, he does not accept the idea of divine knowledge "who are present everywhere and have seen everything..." (Snell 1982, p. 144). Consequently, his thought shifted in another direction.

Xenophanes

Just as Homer and Hesiod represent the poetic tradition, Xenophanes could be taken as an exemplary figure of the new school. More than any other philosopher before him, he made a searching criticism of the vision of the divine that was prevalent at that time. Thus, it would be prudent to say a few words about this philosopher. Xenophanes: "was rhapsode who accomplished the extraordinary feat of putting the new Ionian world vision in the Homeric style, with Homeric worlds, even Homeric meter, thus replacing the great legends of gods and Heroes" (Gadamer 1988, p. 62). He was indeed a transitional figure who was able to divert the old representation of the divine without introducing a new language and a new style.

As mentioned above, his work stood as the most searching and thorough critic of the Homeric conception of the divine. He launched his criticism on two fronts: A) The relationship between the human and divine i.e., rejection of anthropomorphism. B) His persistent advice that Men should not rely solely on the divine for knowledge.

Anthropomorphism

Xenophanes was for the first time in the Western tradition heading towards philosophical monism. God, he said was all-knowing, non-visible, and free from physical attributes. Consider the following fragments.

- (a) "But mortal suppose that the gods are born (as they themselves are) and that they wear men's clothing and have human voice and body".
- (b) "But if cattle or lions had hands, so as to point with their hands and produce works of art as men do, they would point their gods give them bodies in form like their own-horses like horses, cattle like cattle".
- (c) "God is one, suppose among gods and men and not like mortals in body or in mind" (Nahm 1964, pp. 84–85).

He ridiculed the image of the gods presented by the traditional wisdom – to do that, he employed the method of what is known as "redecto-absurdism"

- i) Men take the gods to be more or less similar to them. They impose their own image, character, and even physical attribute on the divine.
- ii) Different races white or black for that matter depict god as mirroring their own image.

iii) Hence, animals too if given the opportunity would paint the gods like them.

Knowledge through Self-effort

Xenophanes agrees with Homer that firsthand experience has an epistemic advantage over another mode of knowing. Where he departs from him is in his sharp distinction between what is "reliably known and what is not". Human beings' luck "the shapes, what is clear, evident; only dikes" – thus what they have instead is appearance semblance of truth, and folly. In addition, Xenophanes goes much further and contends that "human knowledge is in its very essence deceptive" (Snell 1982, p. 139). As he put it: "truly the gods have not revealed to mortals all things from the beginning but by long seeking do men discover what is better" (Snell 1982, p. 139).

Men should try to acquire knowledge through their own effort – they may not achieve complete knowledge but the search should not stop. This perspective is quite new compared to the traditional view that relays heavenly on the 'muse' for knowledge. It should also be pointed out that the knowledge he seeks to attain is not the same type of knowledge that others try to acquire.

Xenophanes considers himself to stand between the divine and human in terms of knowledge. With the advent of the new thinkers, a new type of knowledge was thought. More importantly, they were seeking to discover a principle that does not mesh with obscurities and uncertainties.

(II)

Nature

According to Leo Strauss, the discovery of nature is the work of philosophy. He even goes further by claiming that "philosophy as distinguished from myth came into being when nature was discovered, or the first philosopher was the man who discovered nature" (Strauss 1965, p. 82). Indeed, this discovery enabled the early Greek thinkers to make an entrenched criticism of mythopoeic-culture on many fronts. For instance, once the division between 'natural phenomena and non-natural phenomena' is made, nature becomes an indispensable ground for ethical judgments. Now, as we have mentioned above, the second important issue of rivalry between the two traditions, (philosophy and poetry) was the phenomena of 'nature'. Thus, it is now time to say a few explicit points about the issue.

To begin with, Aristotle named the "Milesians" "Physiologists" because of their widespread interest in understanding nature – its 'physis'. They were the first thinkers to raise questions about the being of nature. The Greek term 'physis' is equivalent to the English word nature. The word comprises the totality of all sensible objects.

As it is well known, the philosophers have begun their inquiry with the study of nature. It is after they polished their method and approach by concentrating on the external world that they turned their focus to the examination of the inner nature of man. It has been repeatedly asked why Greek philosophy began by inquiring into nature? Would it not have been more appropriate to start with the study of philosophical anthropology? Compared to the different variety of answers given by scholars, I find Werner Yager's suggestion to be far more plausible. In his replay, he began with Hegel's short but 'witty dictum': that the "mind moves in a roundabout way". Following that, he offers two interesting suggestions of his own: First, he says, we should remember that Greek speculation was pursued for the sake of theoria (Aristotle). Their inquiry was not motivated by any definable pragmatic goal. Hence, they found "nature" to be more attractive to engage in a disinterested manner than another subject. Second, our surprise springs from our own mistaken presupposition that perceive a radical distinction between natural philosophy "from the spirit of religious mysticism". Thus, when we refrain from construing poetry and prose as two unrelated entities, the philosophers' beginning point will not become problematic and difficult to understand.

The Milesian School

The first intellectual movement to establish a form of rationalism emerged in Greece (Iona) around six century BC. The early thinkers were primarily engaged in answering the following questions: "What is the primary stuff from which the world is constituted?" and "How do the changes take place that brings about its manifold appearances?" (Wheelwright 1959, p. 4).

Thales

In the first volume of his classic book: A History of Greek Philosophy W.K.C. Guthrie introduced Thales in the following manner.

"Thales ought to be required as a forerunner, and that the first philosophical system of which we can say anything is that of Anaximander ...; but all that we have to suggest that he founded the Ionian school of philosophy is the simple affirmation of Aristotle who couples it with the bald statement that he regarded water as the underlying substance out of which all things are made" (Guthrie 1962, p. 45).

Indeed, he is considered to be by most scholars of ancient Greek philosophy to be the first thinker to depart from mythopoeic tradition. His importance lies as we shall try to show later in some detail: i) He took the essential and important step in trying to explain the origin of the universe by introducing one originative principle (Arche). In this respect, his bold and speculative moves to explain the universe by invoking a single principle led to an important step in the rise of philosophy. (ii) His attempt to explain 'nature' with the 'natural world phenomena, was quite novel and antithetical to the mythical account of the old tradition.

Thales advanced the thesis (claim) that "all things" start from water and also, the beginning of everything is water. It is so because he believes that individual things come and go but water endures. According to Aristotle: "Thales, the founder of this type of philosophy, says that it is water (and therefore declared that the earth

is on water), getting the idea, I suppose, because he saw that the nourishment of all things is moist, and that warmth itself is generated from moisture and persists in it (for that from which all things spring is the first principle of them); and getting the idea also from the fact the germs all beings are of a moist nature, while water is the first principle of the nature of what is moist" (Nahm 1964, p. 38).

Most interpreters agree that he selected water because he considers it as a source of life. To be sure, he was not the first thinker to associate the importance of water with life and other purposes. What is new with him is that he moved away from the mythical notion of 'water' to the familiar natural process.

Elsewhere, he also advanced the following baffling statement that "all things are full of gods". Hear, even though commentators have given different interpretations about this particular expression, I find Aristotle's comments to be more useful than others: "Thales" he says, "too seems, from what is recorded about him, to have regarded the soul as a motive force, since he said that the lodestone has a soul because it makes the iron move" (Kirk et al. 1983, p. 95).

Beginning with Aristotle most scholars agree that Thales's epigram precipitates "a 'hylozoistic' view of the world, namely, that all mater (hyle) is embedded with life (zoe), that regard rivers, trees and so on somehow animated and inanimate by spirits" (Kirk et al. 1983, p. 96). In most cultural societies human "soul" is associated with "consciousness and life". A person for example is considered alive so long as he or she displays movement of the bodily faculty. If one can't do that, we say the person is soulless or, without life. Moreover, to the Greeks, god had two distinctive features — immortality and movement. For Thales, the world shows both characteristics, and hence true to his tradition, he claimed that the world is full of gods. In conclusion, Thales's description of the world as "full of gods" by sharing Kirk and Raven two important observations:

- (i) First Thales, is claiming that whatever we see around us has a similar identity that cannot be clearly delineated into "inanimate and animate 'entities since the world is 'like a living organism" (Kirk et al. 1983, p. 98).
- (ii) Second, his statement "that the world is full of gods" clearly establishes or marks the continuity between his taught and the mythological precedents. To be sure, even though we detect some 'mythic formulations, at the end of the day, we cannot deny "the claims that he was the first philosopher" (Kirk et al. 1983, p. 99).

Anaximander

As we have mentioned before, the two important questions that preoccupied the ancient thinkers were: what is the fundamental stuff that the world is made up of and how is change possible? As Philip Wheelwright, a renowned scholar in the field noted Anaximander responded to this question in metaphysical, biological, and ethical manner.

Anaximander's reply to the question rests in his introduction of a boundless entity from which countless things emerge. He named this originative source that lies behind the four "elements" (Fire, Air, Earth, and Water) as "Apeiron". He says

it is something indeed emanate which he described by the Greek term Apeiron, which in general means 'boundless' or 'unlimited' (Luce 1992, p. 23). And what emanates from the Apeiron are contraries like the phenomena of warm and cold, health and sickness, etc.

As far as his biological view is concerned, he employed the analogy of an organism where birth and death exchange endlessly. Contraries exchange position when they reach their highest point in those qualities "gave way to the opposite qualities". The third important response is connected with the issue of ethics and justice. I believe that Anaximander's chief contribution to philosophy lays around this issue and hence warrants further treatment.

Ethics: The Universe Governed by Law

The chief source of Anaximander's teaching is Theophrastus. In his writings, we find an extended quote agreed by most scholars as the authentic statement of Anaximander.

"Anaximander... declared the Boundless to be principle and element of existing things, having been the first to introduce this very term of 'principle'; he says that it is neither water nor any other of the so-called elements, but some different, boundless nature, from which all the heavens arise and the kosmoi within them; 'out of those things whence is the generation for existing things, into these again does their destruction take place, according to what must need be; for they make amends and give reparation to one another for their offense, according to the ordinance of time,' speaking of them thus in rather poetical terms. It is clear that having observed the change of the four elements into one another, he did not think fit to make any one of these the material substratum, but something else besides these (Simplicius Phys. 24.13, after Theophrastus)" (Kahn 1974, p. 99).

I would like to mention at the outset that my interpretation closely follows the classic article of Charles H. Kahn titled: Anaximander Fragment: "The universe governed by Law".

Whenever 'things' overarch from their own allotted sphere; they would be forced by cosmic justice to restrain from their incursion. Anaximander contends that the "elements" are engulfed in endless incursions and reparation. The warring elements are the usual contraries namely hot and cold, light and darkness wet and dry, etc.

This mutual conflict and war with one another is to attain advantage and dominance over the other. When undue advantage is gained at the expense of the other, reparation follows "according to the ordinance or time". Thus, interminable strife and change of positions follow i.e., between victory and defeat, aggression and revenge, takes place in the nature of things. Thus, both man and nature are administrated by cosmic law.

Medicine

If we make a cursory look at the ancient medical literature, we also find the notion of "warring" 'elements' in the human body. Physicians allude to the rise and excess of an 'element' in the body that triggers sickness. What prompts the unhealthy condition is considered wrong. When medicine is administrated, (given) "it is said to chastise another (Kolazein), or to avenge its intemperance (timorein)" (Kahn 1974, p. 100).

Plato

The language and approach of the physicians are repeated again in Plato's Symposium. Plato claims that whenever the warring elements are harmonized with one another, a moment of amenable and healthy conditions would arise. On the other hand, whenever one element refuses to cooperate or blend with the other, it becomes the source of rivalry: in the words of Plato, when such antagonistic powers rule, they: "destroy many things and are the cause of harm. For plagues generally arise from such circumstances and many other irregular diseases for beasts and for plants as well. And indeed, frosts and hailstorms and plant blight come from the excessive and unruly lust of such things for one another" (Kahn 1974, p. 101).

In addition, Anaximander's projection of warring function could also be extended to the phenomena of historical events as well. For instance, when a nation or a people transgress the right and property of others, wronged party is obliged to retaliate. This presentation implies a mutual exchange of crime, which naturally creates a debt that should be paid.

Conclusion

What is new with Anaximander? Is it as most claim his introduction of legal administration on the natural world? I think not for the following reason: It is commonly believed that there are two realms that exist side by side in the universe. The first comprises the human habitat which is administered by the rule of law. The second evolves the animal kingdom where lawlessness reigns.

This bifurcation between the human and the natural is alien to ancient cultures. They do not have the notion of a division between human society and the natural world. This division emerged later with the rise of Greek philosophy proper. Thus, in the classic literature from Homer to the great literary figures, we do not find a clear demarcation between humans and the natural world. We should remember that in the mythic world "the term 'law' normally applies to ritual, to morality and to the natural order at the same time" (Kahn 1974, p. 115). Indeed "in front of man stand not nature, but the power of the gods, and they intervene as easily in the natural world as in the life of men" (Kahn 1974, p. 115). Later on, when the division between the natural and non-natural world was discovered, it becomes clear that "it is not the assimilation of nature and society which

philosophy was called upon to establish, but rather their speculation from one another" (Kahn 1974, p. 116).

Finally, we find two important philosophic achievements by Anaximander. First, he shares with other philosophers in the discovery of a "kosmos". The concept of kosmos lies at the heart of ancient Greek perception of the natural world. The term "kosmos" means in Greek a beautifully arranged or properly structured universe. Second, Anaximander above and beyond the other thinkers replaced the personality of mythic governors with well-defined 'administration" of cosmic powers.

Anaximenes

The best place to start Anaximene's theory is with Simplicius; Let us consider the following text:

"Anaximenes of Miletus, son of Eurystratus, the companion of Anaximander, also posits a single infinite underlying substance of things, not, however, indefinite in character like Anaximander's but determinate, for he calls it air, and says that it differs in rarity and density according to the different substances. Rarefied, it becomes fire; condensed, it becomes first wind, then cloud, and when condensed still further water, then earth and stones. Everything else is made of these. He too postulated eternal motion, which is indeed the cause of the change." (Kahn 1974, p. 145).

The above point is adumbrated in Aristotle as well. In his 'physics', he claimed that the 'nature philosophers' are divided into two camps. Without mentioning his name, he placed Anaximenes in the first group that postulated the underlying principle to be as one namely water, fire, air, or 'something in between.

In this regard, Anaximenes's teaching is correctly grouped in the monistic school of his fellow Milesians. In accordance with tradition, all things originate from one principle and are "resolved into the same". He shared Anaximander's notion of a non-limited 'stuff' and gave it a determinate quality which he identified with 'Air'. Anaximenes had also written a book of which we only have one remaining (extant) fragment. He was less poetic in his deliberation and "more prosaic and scientific in his approach" (Ring 2000, p. 29).

The doctrine of Anaximenes is usually presented by comparison with Anaximander's. As we recall, "the 'Apeiron' is the un-perceived entity which is supposed to explain perceived natural phenomenon" (Ring 2000, p. 29). To be sure, the move to explain phenomena by the non-perceived entity is one of the chief characteristics of science. Anaximenes departs from his predecessor on two important points. First, he rejected the idea of a transcendent entity that is supposed to explain visible objects. Second, he found him (Anaximander) wanting in explaining how existing things transform one into the other.

Air: (Positive Teachings)

Anaximenes rejected the 'Apeiron' of Anaximander and came up with a different Arche namely 'Air'. Thus, for Anaximenes 'Air' is considered to be the

basic stuff from which all things have their origins into which they would be reabsorbed again. Anaximenes addressed the problem of change more successfully than his predecessors. Hence, the problem of change and the process of things is central to his system of thought. The specific question he tried to tackle is: "But if matter did not always remain in its primary state, was it possible to offer any material explanation for why? In other words, why explain, the varying manifestation of its appearance?" (Kahn 1974, p. 119).

The challenge is to come up with a natural cause to explain the transformation of one state of matter into another. Anaximenes found 'air' to be suitable to overcome this quandary since it is capable of explaining the transformation of 'one form or matter into another'.

Why Air

The chief motive of Anaximenes in his selection, or Air wrests in his strive to explain all physical phenomena with natural phenomena. This takes place through the process of condensation and rarefaction. Notice that "Air can be transformed into the other stuff by process or "thinning and thickening." (Ring 2000, p. 3). Air is also inherently in perpetual motion which enables the transformation of elements to take place. For instance, water when cooled would change into ice through the process of condensation and again through rarefaction into rocks etc.

Finally, since air is self-propelling, it is considered alive. For the ancient Greeks, air and life are identical. Life without air is impossible: "That the air which we breathe should be the life which animates us is a common idea, and the breath soul a world-wide conception" (Kahn 1974, p. 119). The belief in the identity of air with soul was not formulated by a single philosopher or school but was part of the ancient cultural belief.

With Anaximenes's the concept of air took a significant change in terms of its meaning and representation. In the old tradition, 'Air' "signified mist fog, or darkness". In contrast to this perspective, Anaximenes came up with a new idea. In his work "Air" assumed the invisible 'element that we take to be air.' When he claims that 'air' through modification and rarefaction he is referring to the later meaning of air, not the old motion that we mentioned above.

(III)

Summing up

Most agree that ancient Greek philosophy moved from mythical disclosure to what is considered to be a form of rational speculation about the world. When it comes to the meaning and implication of the shift, we find different versions of interpretations. The old and at one time widespread version claims that the ancient Greek thinkers "offered "new" answers to the "eternal" questions of mankind.

This representative account of 'Ancient philosophy' is not taken seriously anymore. There are two currently popular and opposing views pertaining to the

transformation of mythic culture to the world of rational speculation: (A) Ancient Greek philosophy is the "precursor" of modern science. John Burnet and Carl Popper are typical representatives of this school. B) On the other hand, the opposite view claims that there is no radical break between the religious (mythic) and philosophic perception of the world that is represented among others by Bruno Snell and Michael B. Foster.

The Case for Discontinuity

As mentioned above, John Burnet and Karl Popper advanced the claim that ancient Greek philosophy made a break with the old mythical tradition. John Burnet, in his classic Book "Early Greek Philosophy," writes: "we have seen that there had been a complete break with the early Aegean religion and that the Olympian polytheism never had a firm hold on the Ionian mind" (Burnet 1930, p. 13).

He believes that Ionian philosophy is 'secular' through and through. Thus, he contends that there is a break and discontinuity between the old and the new tradition. "Iona" he said "was a country without a past. That explains the secular character of the earliest Ionian philosophy" (Burnet 1930, p. 14).

Karl Popper

In his important article "Back to the pre-Socratics" Karl Popper argues that two factors stand out as decisive turning points in establishing the distinctive feature of the Pre-Socratic philosophy: (1) One is the "simplicity" and "boldness" of their question" and (2) the other is the critical spirit they developed over the years against the old tradition.

They raised broad and foundational questions which are quite different from the "puzzle-solving" activities of the specialist. Their engagement with cosmological questions was deeply connected with epistemological issues. This endeavor alone will entitle them to receive the honorific title of being a 'scientist'.

The Case of Continuity: Michael Foster

Even though it is true that science originated in ancient Greece, the new attitude (philosophy) was not completely free from the religious or mythical view of the world. Taking his cue from Werner Jaeger, (Paideia: The Ideals of Culture). Michael B. Foster (Mystery and Philosophy) advanced two important claims in favor of continuity between the two traditions. In elaborating his claim, Foster takes also B. Snell's insightful statement as a point of departure: "Greek, thought did not cease to be religious when it becomes philosophical" (Foster 1957, p. 32).

One of the most crucial objections of Greek religious aspiration was to transform human knowledge into divine knowledge. The philosophic activity was also motivated by the desire to transform human ignorance into human wisdom. Hence, both the old and new traditions carry a similar mission of elevating humanity into some sort of divinity. This claim is connected with the origin philosophy.

There is a strong tradition in ancient Greek that 'wonder' is the source of philosophy. Both Plato and Aristotle have alluded to the phenomenon of 'wonder' as an important ingredient of philosophizing. The notion of wonder implies difficulties and perplexities that we encounter in our effort to comprehend "reality". On the positive side, wonder awakens in us our ignorance and hence encourages us for further probing. Greek philosophy "never stopped wondering". And thus, they defined philosophy as 'love of wisdom'.

Finally, we are reminded that the fundamental motivation behind Greek philosophy is not "scientific but theological". Consider Yager's memorable statement" "though philosophy means death to the old gods, it is itself religion." (Foster 1957, p. 32). Thus, the motivation behind the new thinkers is not scientific but rather religious.

Continuity in Discontinuity

At this stage, we can see clearly the two contending schools of interpretation clearly come to the fore. The first claim is that even though philosophy with its emphasis on logical rigor, conceptual analysis, methodic inquiry, etc., looks different from myth, we can postulate with certainty that there is continuity between the two traditions.

The second school claims that with the rise of the new generation of thinkers, "the maze of myth is dissipated with extraordinary suddenness from the origin of the world of life" (Guthrie 1962, p. 141), and hence the break is complete.

Given the two antithetical views presented above, I submit that the best possible position would be to recognize both the existence of continuity and discontinuity between the old and the new traditions and acknowledged that philosophy originated in the struggle against and along with mythic culture at the same time.

I would like to sum up my "genealogy" by advancing the following propositions. I believe that as far as the relation between philosophy and mythology goes, the 'dialectic of continuity in discontinuity' is in operation.

- 1. With the rise of the new thinkers, old terms acquired new meanings. This is so because when thought changes, language also changes as well. Here, a good example would be the term 'Arche'. For the old school, Arche means beginning whereas later the meaning changed to 'origin' or 'principle.
- 2. Even though the new thinkers were called nature philosophers (Aristotle) their theory did not emanate from observation. In fact, they were more like 'inspired oracle'. Here, we can summon the authority of F.M. Cornford who advances the claim that philosophy began as an "extension" and "differentiations" from the prophet-poet-sage complex. This means philosophy takes the same material from myth and gives it a conceptual feature.
- The movement from myth to the study of nature has become a precondition to science; this does not mean however that early philosophy is motivated by scientific attitude.

4. We should not that the difference between the mythic and philosophic approach is not clearly demarcated. Entrenched mythical presentations were not overrun all at once. It took the cooperation and effort of a generation of thinkers to finally dislodge mythology.

In fact, the entrenched mythical attitude lived side by side with the new spirit for a long time. It took the collective effort of a generation of thinkers to finally dislodge mythology. In doing so, the new thinkers have indeed altered the old views of nature and the divine.

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Epicurean Induction and Atomism in Mathematics

By Michael Aristidou*

In this paper¹, we explore some positive elements from the Epicurean position on mathematics. Is induction important in mathematical practice or useful in proof? Does atomism appear in mathematics and in what ways?

Keywords: Epicurus, induction, Polya, proof, atomism

Introduction

The Epicureans, in general, considered geometry and mathematics only for utility and practical purposes. They regarded abstract mathematics useless and they did not, overall, expect or encourage their members to do any mathematics beyond perhaps some very basic level.² (White 1989, pp. 297–298). There were, of course, some Epicureans quite knowledgeable in mathematics, such as Polyaenus, Philonides, Zeno and Demetrius. Also, the Epicureans did not have mathematics or logic among their primary philosophical interests or teachings.³ (White 1989, pp. 297–298, Cicero 1914, p. 25). Their belief that all knowledge is empirical and the inductive logic that guided their philosophy, do not seem to align with some of the most important aspects of mathematics, such as abstraction, deduction and proof.

Furthermore, Epicureans are well known for their atomism in physics. Interestingly, some scholars ascribe to Epicureans a type of "mathematical atomism" (Sedley 1976, Mau 1973, White 1989) that suggests indivisible theoretical minima in the atom which serve as units of measurement of the atom (Sedley 1976, p. 23). Epicurus speaks of such minima in the 'Letter to Herodotus' (Inwood and Gerson 1988, p. 10). Even though is not completely clear what he means by 'minimal parts in the atom', it seems only reasonable to ascribe mathematical atomism to the Epicureans. That is because they explicitly rejected infinite divisibility and their conceptual atomism is insinuated in their critique of Euclidean geometry by expressing skepticism as to whether two lines would intersect at a point and not a small segment instead (Aristidou 2017, 2020a). Nevertheless, the sources do not show that the Epicureans formally developed any atomistic geometry.

In the following sections, we argue that even though the Epicureans aimed at discrediting mathematics in many ways, they can nonetheless be found accrediting mathematics indirectly in two ways: (a) Inductive inference helps in deductive mathematical proofs by establishing hypotheses and conjectures. (b) mathematical atomism appears in some ways in mathematics and it is important and useful. It is important to emphasize that the Epicureans did not hold the view that induction is an important feature of proof or the view that theoretical atomism appears

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sometimes in mathematics and it is important, but rather that the Epicureans had the relevant conceptual resources (e.g., inductive inference, minima, etc.) to provide a foundation to some aspects of mathematical practice, such as proof, atomistic geometry, etc., had they been interested in doing so.

Epicurean Logic

Behind Zeno's methodological critique of the foundations and logical structure of geometry was the background of Epicurean logic, a quite distinct logic in ancient Greece. What constituted Epicurean logic, its range, uses, etc., had a direct effect on their stance on mathematics. And, ultimately, that distinct Epicurean logical point of view seems to have been beneficial for mathematics and proofs in particular.

Logic was not part of the Epicurean Canon, namely the epistemological rule-set and conditions on how truth is evaluated. Yet, they neither rejected logic altogether nor were ignorant of it, as some of their critics claim (e.g., Seneca, Cicero) (Inwood and Gerson 1988, pp. 38, 52), but accepted aspects of logic under certain conditions and adapted it to meet their epistemological beliefs. For example, Philodemus' 'On Signs' (De Lacy and De Lacy 1941) is a work on logic. The Epicurean logic could be roughly summarized as follows:

- (A) Accepted: (i) sound arguments, (ii) contrapositive (by contradiction), (iii) induction, (iv) abduction. More specifically:
 - (i) *sound arguments*: they accepted $p \rightarrow q$, when p is real/fact. (Inwood and Gerson, 1988, p. 5); Sedley 1982, pp. 242–244). (similar to the Stoic (Chrysippus) "συνάρτησις"). (Sedley 1982, p. 245).
 - (ii) contrapositive: they accepted $\neg q \rightarrow \neg p$, to go from 'πρόδηλον' (obvious/ observed fact) to 'άδηλον' (not obvious/unobserved fact). (Inwood and Gerson 1988, p. 58, Stocks 1925, p. 195). Also, they accepted the by contradiction method when something contradicts with the facts (Inwood and Gerson 1988, p. 9).
 - (iii) *induction*: Epicurus, but even more so Zeno and Philodemus, developed a theory of inductive inference⁵ which bases the inference on empirical observation. (Marquand 1883, pp. 1–11). An inference is justified if it is verified by the facts ("επιμαρτύρησης") or is formed by analogy to other facts ("κατ' αναλογια τρόπος"). An inference is not justified if it contradicts the facts ("αντιμαρτύρησης").
 - (iv) *abduction*: they accepted something if it facilitates explaining real facts (Inwood and Gerson 1988, p. 9).
- **(B) Rejected**: (i) Principle of Bivalence (PB), (ii) Law of Excluded Middle (LEM), (iii) abstractions, (iv) dialectic. More specifically:

- (i) PB: they rejected this principle and adopted the "multiple method" (πλεοναχός τρόπος) which suggests multiple explanations or reasons for something (Inwood and Gerson 1988, p. 37).
- (ii) LEM: rejected this principle for future propositions and in defense of free will. (Inwood and Gerson 1988, p. 42).
- (iii) , (iv) *abstractions, dialectic*: detested abstractions and technicalities, deduced things from facts (Crespo 2014, p. 1, Stocks 1925, p. 188).

Hence, in a sense the Epicureans adopted and promoted a more "realistic/pragmatic" logic which contained the seeds for later modern logics such as Mill's empirical logic (Marquand 1883, p. 1), relevance logic⁶ (Sedley 1982, pp. 247–248) and Pierce's semiotic logic (Belucci 2016, pp. 261–262).

Here, we take a closer look on some matters from (A), especially (A) (iii) (i.e., induction) which was a main feature of Epicurean logic. Other matters from (B) hopefully could be discussed in a future paper.

It is not very difficult to see that the Epicurean logic is not the most appropriate logic for mathematics. Truth in mathematics has stronger conditions and it is tied to proof. So, insisting on contrapositive and induction does not guarantee proof. We give two examples:

- (1) *The contrapositive is not always useful in proof.* Consider the following two theorems:
 - (i) "If a and b are rationals, then a+b is rational". The proof here is direct. If one tries to prove it by contrapositive/contradiction, i.e., by supposing that a+b not rational, then it does not lead anywhere.
 - (ii) "If n is even, then n^2 is even". Just like the example above, the proof here is also direct. If one tries to prove it by contrapositive/contradiction, i.e., by supposing that n^2 is not even (i.e., it is odd), then it does not lead anywhere.
- (2) *Induction helps in proof but does not give a proof.* Consider the following sequence of natural numbers (Jones 2011):

That is, the sequence formed by starting with 12 as a first term and then adding a 1 on the right of every other term. It turns out that all these numbers up to $12\underline{11...1}$ are composites, but the number right after is a prime!⁷ So, according to

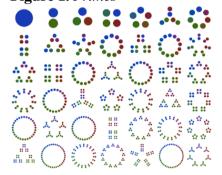
Epicurean logic, the statement:

"the sequence 12, 121, 1211, 12111, ... consists of composite numbers"

should be true because it inductively satisfies the Epicurean requirement of επιμαρτύρησης, i.e., that it is confirmed by a large number of examples without something pointing to the contrary. Yet, the statement is false.

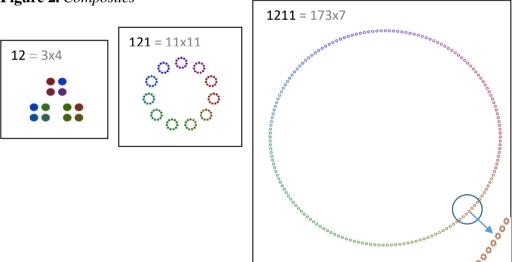
Of course, the Epicureans could have dismissed the examples above as irrelevant, and maintain that induction applies to real things (things of the senses) and not abstract objects such as the numbers 12, 121, 1211, 12111, ... given above. But, one could give a visual representation of composite or prime numbers and challenge the Epicureans once again on the limitations of induction as a proof method in mathematics. For example, consider the following representation of natural numbers (Dancstep 2015):

Figure 1. Primes



In Figure 1, primes greater than 3 are represented as rings of dots. Composites have other shapes, but not rings of dots (see Figure 2).

Figure 2. Composites



One could empirically see⁸ here (Figure 2) that 12, 121, 1211, from the previous example, are composite. So, not everything in mathematics is abstract jargon. An Epicurean could also perhaps check empirically that the next 10 or 100 or 1000 cases after 1211 are also composites. Yet, our senses can only carry us that far. Because, 1211...1 certainly cannot be checked in a person's lifetime.⁹

So, the problem with the Epicurean logic is that: (a) It is not appropriate for mathematics, yet mathematics is important (socially, philosophically,

educationally, etc) (b) It has to dismiss mathematics as unscientific due to its nature and methods, yet mathematics is important and necessary for science. It also, in a way, works like science. (c) It has to dismiss mathematics for empirical reasons due to its abstraction, yet mathematics can take us where our senses cannot (e.g., x-rays, microscopes, telescopes, zoom, etc.). But, could Epicurean logic be useful in mathematics?

Induction in Mathematical Practice

As we have seen already, Epicurean empiricism and the inductive logic that guided their philosophy do not seem to align with some of the most important aspects of mathematics (such as abstraction, deduction and proof). Yet, could empiricism and induction be relevant or even useful in mathematics? They could indeed, because even though deductive inference is central in proofs and in mathematics in general, it is not the only type of inference in mathematical practice.

Peirce considers three kinds of logical inference, namely deductive, inductive and abductive, which he sees as important stages in mathematical inquiry (Bellucci and Pietarinen 2015). Certainly, deduction allows one to move from some hypotheses to a conclusion, but hypotheses and conjectures must be formed in the first place. That can be done by induction and abduction by looking at some specific examples first, draw analogies, conjecture and then generalizing. In other words, the scientific (i.e. Epicurean) aspect of proof is as important as the formal one.

Deduction, in mathematical inquiry, usually comes at the last stage as a way to verify certain observations. Polya (1973) and Lakatos (1976) explain the process of mathematical discovery very clearly. For example, Polya lays down some steps for general problem solving that include: understanding the problem, experimenting, conjecturing, generalizing and proving or disproving. The steps before the proving step are what one would call the inductive/abductive stage.

To emphasize the importance of induction in a mathematics, Polya gives a nice example applying all the previously mentioned steps (Polya 1973). In particularly, he uses the well-known theorem - "The Sum of the First n Cubes is a Square"- to make his point, showing all the previous steps and activity that led one to the theorem, doing calculations, using visuals, forming conjectures, etc. The relevant passages from Polya are given below, on which we underline the most characteristic points and comment on briefly.

Firstly, Polya points out that induction and mathematical induction are different processes. Nevertheless, they share some common ground and are both used in mathematics. The interesting point is that induction is used in mathematics too and, as he says later, it is also important. Then, he proceeds with the first crucial observations. Characteristically:

Induction and mathematical induction. Induction is the process of discovering general laws by the observation and combination of particular instances. It is used in all sciences, even in mathematics. Mathematical induction is used in mathematics alone to prove theorems of a certain kind. It is rather unfortunate that the names are connected because there is very little logical connection between the two processes. There is, however, some practical connection; we often use both methods together. We are going to illustrate both methods by the same example.

1. We may observe, by chance, that

and, recognizing the cubes and the square, we may give to the fact we observed the more interesting form:

$$1^3 + 2^3 + 3^3 + 4^3 = 10^2$$
.

How does such a thing happen? Does it often happen that such a sum of successive cubes is a square?

More specifically, induction is the thought process in which based on specific observations and evidence one claims a general conclusion or law. Mathematical induction is a method for proving that a mathematical statement is true for all natural numbers, and it involves two steps: (a) the "base step" in which one shows that the statement is true for some initial special cases and (b) the "inductive step" in which one proves that if the statement is true for the n^{th} case, then it is also true for $(n+1)^{th}$ case. The similarity of the two processes is that both begin by checking particular initial cases, and use them to generalize. But, the crucial difference is in the way the two processes "use" the particular cases to establish truth for the general case. Induction claims truth based on the number and strength of the evidence but does not establish it. Mathematical induction establishes truth deductively, i.e., it proves that given the evidence the general must follow.

After Polya's crucial observation that $1^3 + 2^3 + 3^3 + 4^3 = 10^2$, i.e., that the first four cubes add up to a square, he proceeds to check some more nearby cases just as a scientist would do in order to see if the evidence would lead to a general conjecture:

What can we do for our question? What the naturalist would do; we can investigate other special cases. The special cases n = 2, 3 are still simpler, the case n = 5 is the next one. Let us add, for the sake of uniformity and completeness, the case n = 1. Arranging neatly all these cases, as a geologist would arrange his specimens of a

certain ore, we obtain the following table:

$$\begin{array}{rcl}
1 & = & 1 = & 1^{2} \\
1 + 8 & = & 9 = & 9^{2} \\
1 + 8 + 27 & = & 36 = & 6^{2} \\
1 + 8 + 27 + 64 & = & 100 = & 10^{2} \\
1 + 8 + 27 + 64 + & 125 = & 225 = & 15^{2}.
\end{array}$$

It is hard to believe that all these sums of consecutive cubes are squares by mere chance. In a similar case, the naturalist would have little doubt that the general law suggested by the special cases heretofore observed is correct; the general law is almost proved by *induction*. The mathematician expresses himself with more reserve although fundamentally, of course, he thinks in the same fashion. He would say that the following theorem is strongly suggested by induction:

The sum of the first n cubes is a square.

Cases for n = 1, 2, 3 and 5 confirmed the pattern and, as Polya explained, one could inductively claim more generally that "the sum of the first n cubes is a square". Of course, one could have checked more cases, perhaps millions of more cases, to strengthen the claim. Induction suggests that based on the observed evidence accumulated it should be true that the sum of the first n cubes is a square.

Then Polya goes on and formulates the conjecture more precisely. That is, the sum of the first n cubes is not only a square number but also the square of the sum of the first n numbers. He also explains that we were led to this conjecture by induction and that mathematics in the making is an inductive science. As he says:

It is, for
$$n = 1, 2, 3, ...$$

$$1^3 + 2^3 + 3^3 + \cdots + n^3 = (1 + 2 + 3 + \cdots + n)^2.$$

3. The law we just stated was found by induction, and the manner in which it was found conveys to us an idea about induction which is necessarily one-sided and imperfect but not distorted. Induction tries to find regularity and coherence behind the observations. Its most conspicuous instruments are generalization, specialization, analogy. Tentative generalization starts from an effort to understand the observed facts; it is based on analogy, and tested by further special cases.

We refrain from further remarks on the subject of induction about which there is wide disagreement among philosophers. But it should be added that many mathe-

based on deductive logic.

matical results were found by induction first and proved later. Mathematics presented with rigor is a systematic deductive science but mathematics in the making is an experimental inductive science.

4. In mathematics as in the physical sciences we may use observation and induction to discover general laws. But there is a difference. In the physical sciences, there is no higher authority than observation and induction but in mathematics there is such an authority: rigorous proof.

After having worked a while experimentally it may be good to change our point of view. Let us be strict. We have discovered an interesting result but the reasoning that led to it was merely plausible, experimental, provisional, heuristic; let us try to establish it definitively by a rigorous proof.

We have arrived now at a "problem to prove": to (Polya 1973, pp. 114–121).

Induction is important because it helps finding patterns among the data, build conjectures and generalize. It lets one "see" the general law before one attempts to prove it. General laws come from somewhere, from accumulating evidence, and do not simply magically appear. Induction provides evidence why something could be true and occasionally the evidence help in establishing that something is true. For example, the evidence initially showed that $1^3 + 2^3 + ... + n^3$ is a square. That is $1^3 + 2^3 + ... + n^3 = k^2$, for some k. But, what k? Any k? Going back to the special cases we experimented with, i.e., $1^3 = 1^2$, $1^3 + 2^3 = 3^2$, $1^3 + 2^3 + 3^3 = 6^2$, $1^3 + 2^3 + 3^3 + 4^3 = 10^2$, one could guess a variety of options for k. For example, one could try k = 2n - 1 (which fails for n = 3) or other patterns until one notices that k must actually be k = 1 + 2 + ... + n, as Polya says above, or even better that $k = \frac{n(n+1)}{2}$. Then, one knows more precisely and in more detail what needs to be proved. Knowing that $1^3 + 2^3 + ... + n^3$ must equal the specific square $\left(\frac{n(n+1)}{2}\right)^2$ and not just any square k^2 facilitates the proof which, as Polya says, must be rigorous. The proof is achieved by mathematical induction, n = 11 which is

Finally, notice that Polya's language and methodology is surprisingly Epicurean, even though the Epicureans unfortunately never produced any mathematics and basically dismissed the subject. Notice that he also speaks of "accumulating further experimental evidence", "analogy" and "observed facts" to enable proofs, which are the typical Epicurean terms of " $\epsilon\pi\mu\alpha\rho\tau$ ύρησης" (verification), "κατ' αναλογια τρόπος" (analogical way) and "πρόδηλα" (obvious/observed facts). In conclusion, induction is important in mathematical practice to observe patterns, form conjectures and help to bring about deductive proofs.

Atomism in Mathematics

The Epicurean critique¹² of Euclidean geometry opened up the way for: (a) a more skeptical stance towards geometry and for things to be revised. Centuries later, non-Euclidean geometries had to be developed in order to facilitate important new physical theories (e.g., relativity theory), (b) a more pragmatic understanding of mathematics, free from metaphysical significations, and considered mainly for its utilitarian purposes, and (c) atomic elements and minimal quantities (quanta), and their discrete properties, to be taken more seriously. Centuries later, quanta came to characterize subatomic particles and more appropriate mathematics had to be employed in order to model such phenomena (e.g., quantum mechanics).

Surprisingly, Epicureans are rarely mentioned in relation to some of the above. In regards to (c) above, and as we mentioned already in the introduction, atomism was a primary motive behind the criticism and rejection of geometry. As Sedley informs us:

[...] that Epicurus believed in a minimal unit of measure out of which not only atoms but also all larger lengths, areas, and volumes are composed, is nowadays widely accepted; and most would also agree that it is not merely a physical minimum, contingent upon the nature of matter, but a theoretical minimum, than which nothing smaller is conceivable. Others both before and since Epicurus have been seduced by similar theories without being led to reject conventional geometry. Yet this is precisely the penalty which a theory of minimal parts should carry with it, for one of its consequences is to make all lines integral multiples of a single length and therefore commensurable with each other, whereas the incommensurability of lines in geometrical figures had been recognized by Greek mathematicians since the 5th ce. Moreover, the principle of infinite divisibility lay at the heart of the geometrical method commonly called the 'method of exhaustion', which was fruitfully developed by Eudoxus in the 4th ce. (Sedley 1976, p. 23).

Sedley (1976), Mau (1973), and White (1989) draw their arguments primarily from the following evidence: Epicurus' phrase "the minimal part in the atom" in his 'Letter to Herodotus', which they understand as some sort of even smaller indivisible minima inside the atoms. Specifically:

One must believe that the minimal part in the atom also stands in this relation. It is obvious that it is only in its smallness that it differs from what is observed in the case of perception, but it does stand in the same relation. For indeed it is because of this relation that we have already asserted that the atom has magnitude, and have merely extended it far beyond (perceptible things) in smallness. And again we must believe that the minimal and indivisible parts are limits which provide from themselves as primary (units) a standard of measurement for the lengths of larger and smaller (atoms), when we contemplate invisible things with reason. For what they have in common with things which do not permit of movement (across themselves) is enough to get us this far; but it is not possible for these (minimal parts) to possess motion and so move together (into compounds) (Inwood and Gerson 1988, p. 10).

Clearly, Sedley's view is based on the passage/evidence above which he interprets as evidence suggesting mathematical atomism, and not just physical atomism. This interpretation might have some good grounds, as Epicurus is quite unclear on the nature of his suggested minima.

Nevertheless, according to our available sources, the Epicureans did not develop any atomistic mathematics. Surprisingly though, special kinds of mathematical atomisms are in some ways implicit in some mathematical theories. We give two examples:

Example 1 (*Number Theory*). Any natural number n ($n \ne 1$) is the unique product of primes to some powers. (this is known as the *Fundamental Theorem of Arithmetic*). For example:

$$6 = 2^{1} \cdot 3^{1}$$
, $7 = 7^{1}$, $12 = 2^{2} \cdot 3^{1}$, $405 = 3^{4} \cdot 5^{1}$, $7007 = 7^{2} \cdot 11^{1} \cdot 13^{1}$

The primes form in a way the building blocks of natural numbers, similar to the way atoms are for physical objects. Several of the most important questions in mathematics relate to primes. Primes have several applications in real life, such as cyber-security, speech recognition, etc.

Example 2 (*Linear Algebra*). Any vector space V has a basis. (This is known as the *Basis Theorem*). That is, V has some elements that in a way 'compose' all other elements of V. For example:

$$(3,1,-2) = 3e_1 + 1e_2 + (-2)e_3$$
, where $e_1 = (1,0,0)$, $e_2 = (0,1,0)$ and $e_3 = (0,0,1)$

Actually, any vector u = (x,y,z) of \mathbb{R}^3 is a unique linear combination of the vectors e_1 , e_2 and e_3 . The basis vectors e_1 , e_2 and e_3 are in way the building blocks of \mathbb{R}^3 because each e_i does not reduced to the e_i 's (i.e., the e_i 's are independent) but all other vectors reduce to them. Orthonormal bases are used in applications such as image processing, quantum mechanics, etc.

Epistemologically speaking, the mathematical atomisms exemplified above allow one to go from the specific to the general in terms of proof. ¹⁶ This reminds one of the inductive method we spoke about in Section 3. But, conceptually speaking, how much the examples above relate to Epicurus' mathematical atomism as expressed in passage from the 'Letter to Herodotus'? Actually, Example 1 does not relate much to Epicurus' minima which are to be understood as "a standard of measurement for the lengths of larger and smaller (atoms)" (Inwood and Gerson 1988, p. 10). If n is understood as an object and primes p_1 , $p_2...p_n$ as its atoms, then the atoms can grow really large. Even larger than some objects. If n is understood as an atom and primes $p_1, p_2...p_n$ as its minima, then the minima cannot serve as units to measure atoms because different atoms have different minima and some minima are larger than atoms. Example 2 could perhaps relate to Epicurus' minima a bit better. One could imagine an atom as a pixel in R³ (i.e., a tiny cube) expressed with respect to some basis e₁, e₂ and e₃. The Epicurean minima could then be the edges of the cube spanned by the e_i's. The minima (i.e., edges) determine the volume of the atom (i.e. pixel cube) which is a standard to measure and compare atoms. Such 3-d pixel atom cannot split into smaller atoms and many such atoms can combine to form larger objects similar to the way many 2-d pixels form images in a computer screen.

The examples above are by no means proposed as a model of Epicurean mathematical atomism. We simply point out some conceptual similarities of the Epicurean mathematical atomism with some types of mathematical atomism that we have today. Once again, it is important to emphasize that we do not claim that the Epicureans held the view that theoretical atomism appears sometimes in mathematics or that it is important, neither we claim that the examples above constitute even a correct explanation of Epicurus' mathematical atomism. Rather, we say that the Epicureans had the relevant conceptual resources (e.g., primary units, minima, etc.) to construct atomistic mathematical models had they known the relevant mathematics and had they been interested in doing so. On the other hand, one wonders if mathematical theories as the ones above, both of a considerable level of abstraction, would have been accepted by the Epicureans (then or now)¹⁷, even as a tool, considering their resemblance to the atomic theory and their several applications in real life.

Conclusions

The Epicurean contribution to mathematics, direct or indirect, could be summarized as follows:

- 1. Their underlying logic and empiricism expressed a skepticism towards geometry which led to further expansion of mathematics, and in turn of physics.
- 2. Their critique of formal logic and their detest of abstraction is felt even today, as 'informal logic' is what characterizes mathematics (in practice¹⁸ and in education).
- Epicurean logic, even though incomplete (because of mathematics), contains elements of later modern and more developed logics such as Mill's empirical logic, Pierce's semiotic logic relevance logic and fuzzy logic.
- 4. Their mathematical atomism, even though undeveloped by them, taught and gave ideas to other scientists later to develop theories that better model nature. Even in mathematics, some seek of the most elemental building blocks of things such as primes, vector bases, sets, etc.
- 5. Epicurean logic is not sufficient to do mathematics, and Epicureans did not produce any mathematics, yet inductive logic seems essential in doing mathematics and some aspects in mathematical proofs seem certainly Epicurean.

The Epicureans were certainly controversial in some of their views. In mathematics, paradoxically, even though the Epicureans dismissed the subject they can nonetheless be found contributing to mathematics indirectly in two ways: Inductive inference helps in deductive mathematical proofs by establishing

hypotheses and conjectures and mathematical atomism appears in some ways in mathematics and it is also important and useful. Epicureans did not purposely relate induction to proof or mathematical atomism to mathematics, but they had the relevant conceptual resources (e.g., inductive inference, minima, etc.) to provide a foundation to some aspects of mathematical practice, such as proof, had they been more interested in it.

Epicureans marginalized and discredit mathematics (e.g., Epicurus and Zeno, respectively). Nevertheless, since some important points related to mathematics come out of the Epicurean epistemology, logic and their critique of geometry, then it is reasonable to: (a) Promote those points and connect Epicurean philosophy to some aspects of mathematics, rather than disconnect it. Epicurus dismissed mathematics probably mainly due to ignorance. But what about today? Today we have epistemic and academic reasons to re-assess. (b) Inform modern Epicureans of possible good Epicurean points on mathematics, so some can moderate any dogmatic views they may have or relax any literal attachments to some of Epicurus' now outdated positions. Are today's Epicureans justified in dismissing mathematics?¹⁹ Epicureanism does not have to simply be reduced to a reaction to Platonism or Aristotelianism. (c) Suggest a positive evolution of Epicureanism that strengthens its arguments and make it more relevant to science and life today. Every philosophy admits some evolution of its ideas, even religions.

Most Epicureans insisted on certain modes of thinking that probably caused their dismissal of mathematics which in turn undermined even good things from their philosophy which we see today. Some, like Zeno and Philodemus, begged to differ on some issues. A lesson to all new philosophers in itself.

Notes

- 1. This paper is based on a talk entitled "The Epicureans on Mathematics: Some Lessons on Axioms, Logic, Experiment and Proof", given by the author at the '7th Panhellenic Conference on Philosophy of Science' (University of Athens, December 1-3, 2022).
- 2. The Epicureans perhaps could be justified in a way as neither science nor mathematics were as advanced then as today and they did not have a complete picture. It is possible that today they could have seen mathematics in a quite different way and recognized some of its special aspects.
- 3. Netz (2015) doubts that there were any Epicurean mathematicians at all. He also claims that the Epicureans were downright hostile towards the profession of mathematics.
- 4. By "mathematical atomism" we mean the idea that abstract primary objects exist, analogous to the physical atoms, which supposedly form the building blocks of other objects. For example, points compose lines, primes compose integers, etc. There were different types of mathematical atomisms (i.e., conceptual atomisms) in ancient Greece which are to be distinguished from physical atomisms (i.e., material atomisms). For example, the Pythagoreans suggested the 'monad' (a term borrowed later by Leibnitz) which is the indivisible unit that composes all

numbers and things. The Platonists suggested the 'indivisible lines' which are elemental triangles that compose all solids. Both theories were criticized by Aristotle (Berryman 2022). Epicurean mathematical atomism, based on the Letter to Herodotus (Inwood and Gerson 1988, p. 10), suggests indivisible theoretical minima in the atom which serve as units of measurement of atoms, but are not atoms themselves. An analogue to Epicurean mathematical atomism in order to clarify it is attempted in Section 4.

5. Overall, in ancient Greece, inductive logic was not fully developed. Aristotle discusses arguments from the specific to the general in 'Posterior Analytics' but does not provide a full theory. According to Marquand, "Both (Epicurus and Zeno) are occupied with the sign-inference, and look upon inference as proceeding from the known to the unknown. Epicurus, however, sought only by means of hypothesis to explain special phenomena of Nature. Zeno investigated generalizations from experience, with a view to discovering the validity of extending them beyond our experience. This resulted in a theory of induction, which, so far as we know, Epicurus did not possess. In the system of Aristotle, induction was viewed through the forms of syllogism, and its empirical foundation was not held in view. The Epicureans, therefore, were as much opposed to the Aristotelian induction, as they were to the Aristotelian syllogism. It was Zeno who made the first attempt to justify the validity of induction. The record of this attempt will give the treatise of Philodemus a permanent value in the history of inductive logic". (Marquand 1883, p. 11). Surprisingly, in regards to Epicurus, some even say that Epicurus' "chief reliance was upon deduction" (DeWitt 1954, pp.7-8).

6. Read (2012, pp. 114–115) says that:

"The idea that validity requires a relevant connection between premises and conclusion has a long history. It certainly featured in Greek discussion on the nature of conditionals, since Sextus Empiricus, in his history of Pyrrhonism, speaks of 'those who introduce connection or coherence assert that it is a valid hypothetical whenever the opposite of its consequent contradicts its antecedent' (Pyrrhoneiae Hypotyposes, ii 111). He does not say who held this view."

Neither Sextus nor Read mention the Epicureans.

- 7. For the proof see (Jones 2011). The prime in question is a number bigger than 10^{136} , much larger than the number of atoms in the observable universe which is estimated to be 10^{80} . Note also that large primes, usually much larger than the one discussed here, are used in cyber-security.
- 8. One could perhaps hear this sequence too! In the 'Online Encyclopedia of Integer Sequences' (available at: http://oeis.org/) one can also have audio of various sequences, such as the prime numbers, the Fibonacci numbers, etc.
- 9. Or all humanity's lifetime for that matter. Life on Earth is estimated to come to an end in about 5 billion years (i.e., $5 \cdot 10^9$ years). The number 1211...1, roughly

speaking, is way bigger than 10^{100} years.

10. Of course, it is well known fact that $1+2+...+n=\frac{n(n+1)}{2}$ and it is proved by mathematical induction. But, proving Polya's claim that $1^3+2^3+...+n^3=(1+2+...+n)^2$ would require knowledge of that very fact where proving that $1^3+2^3+...+n^3=\left(\frac{n(n+1)}{2}\right)^2$ would not require it. So, it makes the proof a bit easier if one notices that $1^3+2^3+...+n^3=k^2$, where $k=\frac{n(n+1)}{2}$.

11. The proof that $1^3 + 2^3 + ... + n^3 = \left(\frac{n(n+1)}{2}\right)^2$, using mathematical induction, goes as follows:

Base Step: For n = 1 we have that $1^3 = 1 = \left(\frac{1(1+1)}{2}\right)^2$, so the statement is true for n = 1.

Inductive Step: We show that if the statement is true for *n*, then the statement is true for

$$n + 1$$
. I.e., given that $1^3 + 2^3 + ... + n^3 = \left(\frac{n(n+1)}{2}\right)^2$ we show that:

$$1^{3} + 2^{3} + ... + (n+1)^{3} = \left(\frac{(n+1)(n+2)}{2}\right)^{2}$$
.

The left-hand side of the latter gives:

$$1^{3} + 2^{3} + \dots + (n+1)^{3} = 1^{3} + 2^{3} + \dots + n^{3} + (n+1)^{3} = \underbrace{1^{3} + 2^{3} + \dots + n^{3}}_{ind.step} + (n+1)^{3} = \underbrace{\left(\frac{n(n+1)}{2}\right)^{2}}_{ind.step} + (n+1)^{3} = \underbrace{\left(\frac{n(n+1)}{2}\right)^{2}}_{ind.step} + (n+1)^{3} = \underbrace{\left(\frac{n(n+1)}{2}\right)^{2}}_{ind.step} + \underbrace{\left(\frac{n$$

$$\frac{n^2(n+1)^2}{4} + (n+1)^3 = (n+1)^2 \left(\frac{n^2}{4} + n + 1\right) = (n+1)^2 \left(\frac{n^2 + 4n + 4}{4}\right) = (n+1)^2 \frac{(n+2)^2}{4} = \left(\frac{(n+1)(n+2)}{2}\right)^2$$

- 12. One of the few systematic critiques. Of course, the Epicureans criticized geometry for their own philosophical reasons but mathematically the critique raised several legitimate points nevertheless, and exposed some of Euclidean geometry's problems.
- 13. That is until new sources might show otherwise. It is possible that Epicurus' work "On the Angle of the Atom" or one of Philonides' geometric works (written to explain Epicurus' minima (Netz 2015, p. 320 (note #53)) contain atomistic mathematics.
- 14. Archimedes in "The Method" uses 'indivisibles' to compute areas. Archimedes showed that one can still do mathematics without infinite divisibility (Mau 1973). Yet, he did it heuristically, as after that he still needed rigorous proof.
- 15. There are, of course, infinitely many bases for a vector space V. But, all bases contain the same number of elements. This common number is called the *dimension* of V. In the figure below, we see an example of such a basis for the space R^3 . The red vectors e_1 , e_2 and e_3 form the "natural basis" of R^3 . For this special basis the e_1 , e_2 and e_3 have length 1 and they are pairwise perpendicular to each other. Furthermore, any vector of R^3 (e.g., the blue vector u of the figure) is a unique linear combination of the red vectors.



16. Regarding Example 1, one could know when a composite integer n > 1 is the product of two primes (i.e., n = pq) by simply checking whether the smallest prime factor in its prime decomposition is greater than the cube root of n (Rosen 2011, p. 76). For example, $6 = 2 \cdot 3$ because $2 > \sqrt[3]{2} \approx 1.25$. Numbers that are the product of very large primes are very important in cryptography. Regarding Example 2, one could know how a linear transformation T in R^3 transforms vectors in general (i.e., its formula) by simply knowing how it transforms the vectors of the basis $e_1 = (1,0,0)$, $e_2 = (0,1,0)$ and $e_3 = (0,0,1)$. If T transforms e_1 to (1,0,0), e_2 to (0,1,0) and e_3 to (0,0,0), then as $(x,y,z) = xe_1 + ye_2 + ze_3$ one can easily have the full transformation T(x,y,z) = (x,y,0), which is a projection of any vector on the e_1e_2 -plane.

17. Since the Epicureans were familiar with Euclid's *Elements*, as they criticized geometry, they must have been familiar with Books 7 and 9 of the Elements which deals with prime numbers and in particularly the Fundamental Theorem of Arithmetic. Nevertheless, it seems that the Epicureans neither commented on primes nor exploited the opportunity to argue for some type of mathematical atomism.

18. Whether we actually use or need formal logic in mathematical proofs see Aristidou (2020b).

19. There are several misconceptions among modern Epicureans about the nature and applications of mathematics, especially pure mathematics. Also, there are misconceptions about the principles and scope of logic, especially of non-classical logics such as fuzzy logic, quantum logic, etc. Some typical misconceptions can be found in Patzoglou (2011), Stamatiadou (2013), Altas (2015). For example, a common misconception is that fuzzy mathematics is some alternative mathematics that challenges "classical" mathematics. It is not. Fuzzy mathematics is a branch of mathematics that extends the classical notion of a set by means of classical mathematics and develops tools that enable scientists to model imprecise and fuzzy situations. We are hoping to expand further on such issues in a future paper.

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Mad Dogs Tragic and the Philosophical

By Magda Filliou-Vasilescu*

"Our greatest blessings come to us by way of madness, provided the madness is given to us by divine gift."
-Socrates, *Phaedrus* (244a)

"Like a dog!' he said, it was as if the shame of it should outlive him."
-Kafka, *The Trial* (Ch. 10)

The distinction between being a dog (metaphorically) and being mad in ancient Greek philosophy- focusing on Diogenes the Cynic- and tragedy. It is with regards to ancient philosophy and tragedy because the former dogginess is aware of itself in that there is a theory behind it and aims at the good life, whereas the latter, I argue, is destructive and closer to madness.

Keywords: *Tragedies, Early Cynicism, dogs, madness, metaphor*

Introduction

There were two kinds of metaphorical 'dogs' in antiquity: the philosophical dog and the tragic dog. In keeping with the Aristotelian notion that a metaphor is effective 'provided it be neither strange, for then it is difficult to take in at a glance, nor superficial, for then it does not impress the hearer' (*Rhetoric* 1410b), I shall treat the epithet 'dog' as neither strange nor superficial, but as a meaningful metaphor that reveals some important aspects of the characters to whom it is ascribed. As such the fact that 'dog' was chosen as a metaphor over other animals to describe two rather distinct types of character demands justification. They need to have enough similarities for the 'dog' metaphor to be meaningful and enough differences for the terms 'philosophical' and 'tragic' to be justifiable. Two basic questions arise: firstly, do those called 'dogs' behave like dogs; and, are those called 'dogs' treated like dogs (both in the sense of treating oneself as a dog - whether consciously or not- and being treated as such by others)? In other words, why are they called dogs?

In what follows, I shall investigate metaphorical dogs in tragedies and philosophy, specifically Diogenes the Cynic, with reference to the literal place this animal has in the wider ancient Greek culture. In the first section of this paper I shall briefly look into how dogs, the animals, were perceived in the ancient world. In the second section, I shall look into references with regards to dogs (animal) in tragedies, and the various meanings of 'dog' both as a positive, or neutral, and offensive epithet² with the conclusion that 'dog' is intimately connected to madness.

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¹The sources I use are not exhaustive, but indicative for my thesis. For a fuller account of dogs in ancient Greece, see: Trantalidou (2006), Franco (2014), Denyer (unpublished).

²That is, an epithet aiming at the ridicule, judgement, or humiliation of a party.

My approach to madness in the second section shall be based on how the people who are said to be mad are described in the tragedies of Sophocles, Aeschylus and Euripides.

Finally, in the third section, I shall investigate the reasons the offensive epithet 'dog' was transformed into a positive epithet under the Cynics- even if the rest of the ancient world may have seen them under the light of madness. In the third section I conclude that the Cynics were the positive double of the negative representation of the tragic dog. In other words, I conclude that whereas tragic dogs are mad by way of being betrayed by the values set by human convention which they treated as the paramount moral law; the Cynics seem mad, but are not, by way of choosing to betray- that is to say not believe in or abide by- these moral values. Tragic dogs are people who are brought to be mad by the very artificial moral norms they serve, whereas philosophical dogs *escape* madness by choosing not to serve any moral authority other than Nature.

Dogs

The ancient Greek term *kyon* along with its derivatives³ was a term denoting moral worthlessness. A dog is thought to be someone who has parasitic tendencies, an insatiable appetite, and is prone to indecency, psychic instability, opportunism, treachery, filthiness, or vulgarity. Indeed, a dog is someone that lacks shame (*aidos*). 'Dog' was rarely used as a positive epithet.⁴ Under a positive light, 'dog' would denote faithfulness, wit, and great military prowess. In order to understand the reasons behind dog being used predominantly as a negative epithet and simile for either the tragic or the philosophical dogs, we first need to understand the status and meaning of dogs as animals in the ancient world. We need to understand the traditional cultural expectations and conscious views as expressed in the literature⁵ of the time that were invoked when tragic (literary) and philosophical (real) characters were called 'dogs.' In what follows I shall argue that given the fact that dogs were the closest animal to human beings, it is their shameless betrayal of the human moral code, whenever it occurred, that sparked a deep sense of contempt and gave rise to 'dog' being used as an insult.

Dogs resemble human beings in that, unlike other animals, each dog has individual differences in characteristic patterns of thinking, feeling and behaving. Whereas the behaviour of foxes is more or less consistent and uniform within its species, human beings do not exhibit the same consistency in terms of character and behaviour. Yet, even though dogs are non-human animals, they exhibit human behaviour: it is not the case that their character is predictable on account of the fact that they are dogs. As such they teeter at the precipice of the taxonomical gap. To put it in Cristina Franco's words: 'Residing in an interstitial niche, the dog

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³For the repugnancy of dogs, see: Scholz (1937, pp. 7–10), Merlen (1971, p. 27), Lilja (1976, pp. 21–25), Mainoldi (1981, pp. 109, 119), Franco (2014, pp. 7–53).

⁴Such an example can be found in Plato's *Republic* (375a-6c), where dog and man (*skylax* and *phylax*) are equated in terms of political virtues. See Sorabji (1993, pp. 10–11). Another example is that of Aristogeiton, who is called 'dog of the people' in Dem. 25,40.

⁵For an exploration of the dog in art see Trantalidou (2006).

straddles the line that separates humans from other animals' (Franco 2014, p. 53). Yet, unlike human beings, dogs do not form societies and institutional bodies. An observation to this effect is put forward by Socrates in the *Sophist*: 'it is not worth our while to count the class of dogs as among creatures living in herds' (266a1–4). Though dogs do not form herds, however, they are not simply an individualistic animal. Whatever role is given to them, or adopted by them, each dog is within a human, as opposed to a canine, community (Franco 2014, 53, 205 n.142).

Dogs' individualistic lifestyles can be seen in that they lack the kind of code of conduct and organisation that define societies, be those human or bee-like societies. The fact that dogs do not form societies can be seen in that they play an intricate part in human societies but in a rather isolated manner: they do not form self-organising packs. That is the case even in cases where dogs are placed in packs: man along with a pack of dogs may hunt together, but the dogs adhere, to different degrees, to the orders and demands of their master, rather than to orders they give to each other. The individuality of dogs can also be seen in that both praise and blame is given to individual, as opposed to groups of, dogs. Aelian, for example, tells of the commemoration in the Stoa Poikile of a dog who fought at Marathon (*NA* 7.38). Similarly, an example of blame is the case of the dog Labes in Aristophanes' *Wasps*, who was called into court for snatching and eating a Sicilian cheese in its entirety (Arist., *Wasps*, 967–72).

Their taxonomical anomaly can also be seen in that, as Aristotle tells us, dogs, much like human beings⁹, mate with other species (Aristotle, *Gen. An.* 2.7.9). The mating of dogs with humans, specifically, can be seen in Aelian's story about a married woman that was charge by her spouse with the offence of adultery with a dog (Ael., *NA* 7.19). Less shockingly, according to ancient sources, dogs mate with other members of its animal family, such as wolves (e.g., Arist., *Hist. An.* 8.28.13, Plin,. *Nat.* 8.148) and foxes (Xenophon, *Cynegetica* 3.1), as well as other species such as tigers and lions (Arist., *Gen. An.* 747 a 34–6, *Hist. An.* 8.28.14; Poll., *Onom.* 5.38; Grattius, *Cyneg.* 161–66; Ael., *NA* 8.1; Pliny, *Nat.* 8.148) (Denyer unpublished).

Even as peripheral members of human societies, dogs shamelessly ignore many societal distinctions, which form the foundations of a human society. They are not attentive in distinctions such as those between danger and security, suffering and pleasure, decency and indecency, cleanliness and griminess (Denyer unpublished). Aelian, for example, tells of how a female dog is able to re-enter the fighting stage right after she has given birth (*HA* 7.12). They further disregard distinctions between places and the behaviours that are appropriate in each of

⁷Other examples of heroic dogs: Pollux 5.65; Aelian *HA* 7.38; Plutarch *Aratus* 24; Pliny *Nat.* 8.143.
⁸In a different story the king of Albania gifted a dog to Alexander the Great, which was disinterested by the bears and boars it was meant to hunt, and so Alexander had it destroyed (Pliny, *Nat.* 8.149-50)

⁶According to Aelian dogs are so capable of following orders to the degree that they can "manage household affairs for those who have trained them; and for a poor man it is enough to have a dog as slave" (NA 6.10).

⁹Bestiality as a human sexual preference can be seen in Greek mythology, e.g. Zeus seducing Europa as a bull. On modern studies on bestiality, see: e.g., Earls and Lalumiere (2002, pp. 83–88).

them. Dogs eat anything¹⁰ and anywhere: they root for food in dung heaps (*Phaedrus* 4.17.6), as much as in dining rooms (e.g., Aesop, 283).

Dogs, even as members of the human social strata, whose predatory instincts are suppressed; surprisingly, retain a wild, anti-social, side. A dog is the only animal, along with humans, that is particularly at risk of *lyssa* (*<lykos*, wolf). A *lyssētēr* or *lyssōdēs kyon* is one that starts behaving with excessive aggression and savagery aimed at whoever or whatever is around. *Lyssa*, whether it presents itself in the form of a disease, rabies (Aristotle *HA* 7.22.604a4–10), or as a set of non-pathological symptoms, is expressed as limitless blind rage and frenzied madness (*CGL s.v. lyssa* 2021, 883; Franco 2014; 29-31, 196n54). In the case of both the tragic and philosophical dogs, however, *lyssa* should be thought of as a 'symptomatology rather than a pathology' (Franco 2014, p. 29). That is because their aggressiveness is caused by a clash of values, in the case of the philosophical dogs, and by the unstable character of human ethical systems upon which they have based their lives, in the case of tragic dogs, rather than their physiological constitution being infected by a viral disease.

If dogs were thought of as constituent pieces of a human societal structure, no matter what their status within it may be, then dogs are also subject to the moral order that defines that society. That means that dogs may also be viewed as breaching the social contract whenever they do not behave according to the community's moral code. Given dog's inferior position in human society, their membership to it requires their acknowledgement and payment of their debt due to nourishment in the currency of loyalty and obedience. The position of the dog's relatives, such as that of the fox, with regards to human society is that of an outsider, enemy and competitor. Their world comes to direct opposition to that of man's. Unlike foxes, dogs, in all their diversity, as the animal amongst humans, unknowingly participate in the ethical apparatus of duty (Franco 2014, p. 50).

The symbiotic nexus between human beings and dogs was often expressed in scenes where men are seen raising and nurturing dogs. ¹¹ Although dogs occupy a higher position than other animals, they remain below man in the hierarchy: they remain indebted to man. Despite their asymmetrical relationship, men and dogs share a bond that resembles filial solidarity. To that effect dogs have been burdened with the expectation of having internalised the ethical content of human culture and assimilated its practices and values. Dogs insofar as they were their master's table (e.g., Homer *Odyssey* 17.309–10; Alciphron *Epistles* 3.9; Plut. *How to Distinguish Friend from Flatterer* 3.50c.) and hunting companions (e.g., Homer *Odyssey* 11.a.5; Xen. *Cyn.* 4.4, 6.15; Ael. *NA* 8.2; Arrian *Cyn.* 18), guards of their

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¹⁰Dogs eat everything apart from other dogs (Ael., *NA* 4.40). E.g. dogs are necrophagic: *Iliad* 1.4, 22.42, 22.335, 23.21, 24.409; Onesicritus *apud* Str. 11.11.13; Aeschylus *Suppliants* 800, *Seven* 1014; Sophocles *Antigone* 206, 1017, *Ajax* 830; Euripides *Hecabe* 1077; Thucydides 2.50.2; Hdt.1.140.1, 7.10 q 3, 9.112. Dogs drink blood: Plato *Republic* 537a; Homer Iliad 22.66-76. Dogs eat filthy food: Aristophanes *Peace* 24; Clearchus *apud* Athenaeus 13.93. Dogs eat human left-overs and scraps: Aristophanes *Knights* 413-6, *Clouds* 489–91; Plutarch *Life of Lycurgus* 12.9; Homer *Odvssey* 17.220.

¹¹Man's favouritism of dog's can be seen in Aesop's 93 (ed. Hausrath). And the fact that people nurture them in Plato's *Rival Lovers* (137c6–7): 'Well then, aren't those who know how to make dogs better also those who know how to discipline them properly?'.

homes, flock, temples and graves (e.g., Flock: Aesop 153, 342 (ed. Perry); Hesiod *Work of Days* 795–97; Ael. *NA* 8.2; Xenophon, *Cyn.* 6.11-14. Temples: Ael., *NA* 11.3, *NA* 7.13; Plu., *Sol. Anim.* 13; cf. D.L. 7.32. Graves: Ael. *NA* 10.41.); appear to have been subject to the same cultural expectations as any other member of society.

The fact that dogs are co-opted into human societies can be seen in the idea that it is shameful when a dog is being licentious, that is, when it shows lack of moral restraint. In the *Republic* Socrates reports that 'the most terrible and most shameful thing of all is for a shepherd to rear dogs as auxiliaries to help him with his flocks in such a way that, through licentiousness, hunger, or some other bad trait of character, they do evil to the sheep and become like wolves instead of dogs' (416a2–6).

The dog's astute preoccupation with virtue pertaining to vegetation that Aratus attributes as a characteristic of Sirius the Dog Star shows their eagerness to concern itself with the rewarding of virtue and the punishing vice:

Sirius the Star who rises together with the Sun and cannot be fooled by the trees full of leafs which bear no fruit. For he sharply rushes through them and judges, which to strengthen and which to destroy completely. (Phainomena 331–335)

Dogs were also concerned with virtue amongst themselves. Pliny tells us that 'the best dog of the litter is the one which is last in obtaining its sight, or else the one which the mother carries first into her bed' (*Nat.* 8.151). Dog's primary concern, however, is human virtue. Despite his familiarity to his neighbour's bitch, Theophrastus' Doltish Man gets bitten by her (*Char.* 14.5). Pyrrhus of Epirus once befriended a gentle dog whose master had been murdered. As Pyrrhus was in the process of reviewing his troops, his review was interrupted by the barks of the dog. The dog was fixated on one of Pyrrhus' soldiers and was trying to divert Pyrrhus' attention onto him. Pyrrhus understood the dog's message and after torture the soldier confessed to having murdered the dog's previous master (Plu., *Sol. Anim.* 13; Ael., *NA* 7.10; Pliny *Nat.* 8.142) (Denyer, unpublished).

Dog's keen sense of detecting virtue was said to be owed to them having a remarkable perceptual capacity. An old ploughman, Pliny tells us, expressed the wish for dogs' intellectual capacity to have been equal to their sensory capacities for then there would be strong epistemic grounds as to whom they should direct their aggression (Theoc. 25.78–83). According to other sources dog's capacities exceed the limits of simply being perceptive. Pliny lists superior memory that is the only which comes close to the human one (*Nat.* 8.146). Simonides tells us that the bitch is the only one of the female animals that is unable to restrain her inquisitiveness (Semon. 7.12–20).

Furthermore, dogs are animals capable of some form of basic prudential reasoning (Denyer, unpublished). Chrysippus tells the story of a dog which, as it was tracking its prey, it arrived at a crossroads with three different paths. Not

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¹²Other such stories: Nem., *Cynegetica* 133–50; Arist., *Pr.* 10.35, *HA* 6.18.5; Semon. 7.33–4.

knowing which path the prey animal chose to take, the dog sniffed for traces two of the three possible paths the prey animal could have taken. In the absence of any evidence of a trace, and without sniffing out the third, the dog chose the third, and correct, path. According to Chrysippus this story demonstrates the dog's capacity to use the fifth indemonstrable syllogism: that from a disjunction and the negation of one of its disjuncts you can conclude the other disjunct (S.E., *PH* 1.69; Cf. Aelian *NA* 6.59). Whether dogs' especially keen sense, or prudential reasoning, dogs are particularly sensitive to things humans often overlook. Similarly, Argus was the only one to recognise Odysseus in his Diogenean disguise.

Despite their capacity for prudential reasoning and their attunement to human virtue and vice (Philostr. VA 8.30; Ael. NA 10.41; Ael. NA 7.25), their close relationship to men and their debt to them, dogs disregard societal behavioural demands. This disregard for human values, especially given the dog's perceived duty to follow the orders of men who belong in societies and themselves perform those values, may, from man's perspective, be understood as a kind of betrayal produced when a dog is *lyssōdēs*. That is, canine transgression, whether small or big, is, in a meaningful sense, equivalent to madness.

Socrates in the *Sophist* talks about the difference 'between a wolf and a dog' as 'the wildest thing there is and the gentlest' (231a6–b1). This highlights the shocking effect produced to one witnessing this transition. A depiction of someone who becomes *lyssōdēs* can be found in Euripides' *Hercules Furens*: Herakles maddened (952) by *Lyssa* 'suddenly begins to change: his eyes rolled and bulged from their sockets, and the veins stood out, gorged with blood, and froth began to trickle down his bearded chin' (931–4), he 'laughs like a maniac' (935) and blinded by his 'murderous rage' (1005) he mistakenly kills his own children and wife (965–1005).

The *lyssa* of Herakles shows that someone can turn from being 'the gentlest thing there is,' an affectionate father and husband to 'the wildest thing there is,' to someone who is capable of killing those closest to him. The anxiety of this reversal of roles can be seen in the numerous references of canine anthropophagy. In the *Odyssey* (21.362-65), Penelope's suitors forecast that Eumaeus will be eaten by his own dogs. ¹⁵ Callimachus too spoke of Actaeon's dogs, who would initially share a meal with their master, and later 'made a meal of him' (*Hymns* 5.114–5).

Tragic Dogs

The tragic dogs are the *dramatis personae* called dogs in the tragedies of Euripides (where the term 'dog', whether it refers to the animal or a person, occurs

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¹³For an objection, see Plutarch Sol. Anim. 13.

¹⁴According to other sources such as Clearchus (*apud* Athenaeus 13.93), however, dogs' virtues are limited to having keen senses as to recognise and refrain from attacking those who are familiar to them

¹⁵Another example: Actaeon was killed by his own canine hunting companions as a punishment for accidentally, seeing Artemis bathe on Mount Cithaeron (Euripides, *Bacchae*, 338–9).

30 times), Aeschylus (16 times) and Sophocles (11 times). ¹⁶ In what follows, using Franco's distinction (Franco 2014, 17), I shall be looking at both the meaning and intention behind calling someone a 'dog.' And that is because the meaning and the intention of an insult do not always coincide. One may be called a dog because of their canine-like features and habits, and another may be called a dog as a means of provocation and humiliation such that the insulted party is made aware, or is made to feel that, they have the same status and power as a dog in their shared society.

Not all of the dog-references in tragedies are used as epithets. But, even in cases where 'dog' is used to refer to the animal, rather than as an anthropocentric epithet, it reveals certain underlying associations. The motifs, such as those of hunting, anthropophagy, prudential reasoning, virtue-vice and guardianship, are often the same as those seen in the previous section. These demonstrate both a relationship of dependence between man and dog, but also the deep fear of reversal of roles rooted in man.

Dogs and men are equated in their depiction as guardians (skylax and phylax). In Aeschylus' Agamemnon the watchman (phylax) 'begs the gods to give him release from this misery- from his long year of watch-keeping, during which he has spent his nights on the Atreidae's roof resting on his elbows like a dog' (5). 17 This is partly in keeping with Plato's Republic (375a–6c), in which dog and man (skylax and phylax) are equated in terms of political virtues. 18 To the question as to whether there is 'any difference between the nature of a pedigree young dog and that of a well-born youth' that are meant to be guardians, for example, the answer is that 'each needs to be courageous' and have 'keen senses, speed to catch what it sees, and strength in case it has to fight it out with what it captures' (375a2–8). Specifically the comparison is between dog and the ruling-guardian class of citizens. This comparison is made both because the guardians are meant to watch over the rest of the citizens (much as watch-dogs watch over whatever they are meant to protect); and on the level of justified potential aggression, especially towards an external enemy. Yet, Aeschylus' watch-man does not equate himself with a dog in a positive way. For instead of acting 'like a watch-dog,' the watchman gives the sense that he 'is (lived the life of and as such reduced to) a watchdog.

A lot of the scenes depict dogs as man's hunting companions. Aphrodite tells her audience that Hippolytus 'hunts with swift hounds and clears the land of wild beasts, sharing in greater than mortal companionship' (Eur., *Hippolytus*, 18–19). Together, we are told, they 'hunted wild beasts and killed to the honour of holy Dictynna' (1127–30). The special relationship between dog and man is highlighted in these lines: man and dog share a filial-like bond that involves both chasing away other animals from civilised society and killing others to honour a god. Dogs and

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¹⁶The adjacent 'wolf', on the other hand, occurs in Aeschylus 5 times, in Euripides 2, and none in Sophocles. For a complete list of all the animals in tragedies, see: Thumiger (2008, pp. 1–21).

¹⁷The theme of the dog as a guard is also seen in the image of Cerberus, the watch-dog of Hades, in *The Women of Trachis* (1098–9), *Alcestis* (360–2), and *Herakles* (1278).

¹⁸Also, in Sorabji (1993, pp. 10–11).

¹⁹Other hunting scenes: Euripides *Helen* 153-5, 1169–70.

men are put together in opposition to other animals. Dogs here may be taking orders from man and for that reason their relationship is asymmetrical, but they perform the same function and they are both under the guidance of the same deity.

The fear of man being hunted down by dogs is also apparent in tragedies. This fear is echoed in Castor's warning: 'The hounds are here. Quick, to Athens! Run to escape, for they hurl their ghostly tracking against you, serpent-fisted and blackened of flesh, offering the fruit of terrible pain' (Euripides *Electra*, 1342–6). This is a scene in which men are hunted by metaphorical dogs, who, unlike dogs that act as hunting companions, actually harm their prey. In this passage the disturbing suspicion that dogs may be superior than men is confirmed: dogs can out-strengthen men. And whence that happens, dogs kill, rather than catch and deliver, their inferior. It is only because dogs are thought of as members of the human community that the act of hunting men and eating human flesh renders them the mad *par excellence*. Such an example is Apollodorus's (*Bibliotheca* 3.4.4) version of the myth of Actaeon, which holds *Lyssa* (canine madness) as being the cause for Actaeon's hunting dogs confusing their master for a prey animal and tearing him to pieces.²⁰

The fear of anthropophagic dogs is also a common theme. In fact, amongst all three tragedians the motif of dogs and birds²¹ being paired together to eat the flesh of dead men is one of the most common ones (Soph. Pho. 1634, 1650; HF 568; Tro. 450, 600; Aj. 830, 1065, 1297; Ant. 29, 205, 206, 257, 697, 698, 1017, 1021, 1081, 1082; Aesch. Su. 800, 801; Sept. 1014, 1020, 1036; Eur. El. 897; Ion 903, 917, 1494). For one's body to be consumed by dogs often appears as a threat: Alcmene orders the 'attendants, to take him away to that place and then after you have killed him give his body to the dogs!' (Herakleides, 1050).²² Man, who otherwise controls both the feeding schedule and what is considered appropriate food for dogs, himself becomes their food. I am in agreement with Franco that this threat aims at producing a certain effect. By calling one 'dog-food' one publicly establishes one's own superiority over their enemy (Franco 2014, p. 77). More important perhaps, however, is that the appearance of a threat that combines the promise of great violence together with the appearance of dogs signifies that the person who is flyting is himself *lyssodes*. That is, it signifies that they are themselves dogs who will devour the recipient of the threat as though they were nothing more than dog-food. Regardless of whether the flyter is aware of his selfimposed identification with dogs; they are, rather shamelessly, publicly acting like a dog.

²⁰Actaeon's myth resembles that of Herakles in that both stories involve *lyssa* blinding an agent to kill someone close to them.

²¹On how birds, especially those of prey, are called 'winged hounds of the father' (*Ag.* 136), see Franco (2014).

²²Also: e.g., *Antig.* 205–206, 257–8, 697–8, 1017–19, 1080–2.

²³It is the equivalent of calling someone 'human waste' since dogs did not eat their (hunting) prey, but human left-overs (*apomagdaliai*).

'Dog' as an epithet used in tragedies is associated with, but in a less dignified way than lions, violence²⁴ (Thumiger 2014, p. 106). In particular, there is a strong connection between the anti-societal properties of rage, madness, and shamelessness, and human dogginess. In Aeschylus's *Suppliants*, for example, the Chorus (Danaids) speaks of 'the crazed family of Aegyptus' (741), specifically that their 'appetite for battle is insatiable' (742) and that they are 'so arrogant, maddened by their unholy rage, as shameless as dogs, turning a deaf ear to the gods' (757–9). They exhibit lack of restraint in showing violent intention and action, and they refuse to respect the dignity of the Danaids. What this means is that the family of Aegyptus lacks the kind of shame that most effectively regulates social equilibrium.

The Erinyes are decisively relevant here for they highlight the cultural association between dogs, women, madness, and rage. In the *Choephori* the female featured monsters are called 'the wrathful hounds' (924–5, 1054) and 'maenads' (mainades: 'the raving ones': *Eumenides*, 500). They are depicted as the avengers of a party that has been wronged. As such, they may be simultaneously the wrathful hounds of both Klytemnestra and Agamemnon (*Choephori*, 924–5). In the *Electra* (1380–90), they are the 'champions of Justice, hounds of the gods, hot on the trail of crime.' What seems apparent here is that, though there is a difference between a sense of personal justice and universal divine Justice, the Erinyes serve both indiscriminately. The Erinyes represent pure vengeance of the sort that asks for no moral justification. Similarly, the dog may serve its master's vengeful appetite without regard as to the nature of its justification.

The Fates, who are also portrayed as female, in the *Electra* are said to be 'the dreadful dog-faced goddesses of destiny' that 'will roll you like a wheel through maddened wandering' (Euripides, *Electra*, 1252–3). Though the Fates may not be the ones who are mad in this passage, they are portrayed as dogs that pass on or sentence someone into madness. The fact that the doggish part of their body is the head seems all the more significant considering that the most common way for rabies to be transmitted is through biting (Franco 2014, pp.34-5) and that dogs are said to *sniff out* vice and virtue.

In Aeschylus' *Choephori*, the Chorus refers to Scylla as 'the murderous maiden' (613) who is 'a woman with a dog's heart' (620). This passage highlights the connection between betrayal and dogginess. Scylla has betrayed her father and her city. A woman with a dog's heart is one that has no loyalty. In the *Agamemnon* (1233–36) Scylla is called 'the bane of sailors, a raging, hellish mother, breathing out truceless war against her nearest and dearest.' When Polymystor tells Hecuba that her promontory Cynossema, 'Memorial of the Bitch', will be named after her and will serve as a mark for sailors, it echoes the rest of Scylla's attributes.

Hecuba stands as the cautionary tale that artificial moral codes leave tragic dogs in their precarious positions. The starting point of the tragedy finds Hecuba

²⁵Similarly, Oedipus calls the Sphynx a 'singing bitch' (Oedipus Rex, 390–5) on account of the fact that she was both a monster and female, even though she was not said to have any canine features.

²⁴The lion imagery in the *Oresteia* is a classic example (on which see Knox (1952), Lebeck (1971, pp. 50–51), Saayman (1993, pp. 13–16), and Heath (1999, p. 20). For the Iliad, see Alden (2005, pp. 335–342).

already in a grieving state: after the fall of Troy, Hecuba, once the queen of Troy, and her daughter Polyxena have been taken by the Greek army as slaves. She has already lost her city, status, husband and most of her children with seemingly two children remaining alive. After Polyxena is willingly sacrificed to appease the ghost of Achilles, Hecuba's grief is consoled in the knowledge that her daughter's noble nurturing has shaped in her adult life. When she becomes aware of the death of her last surviving child, Polydorus, whom she had entrusted to her friend Polymystor to keep him in safety, she immediately deciphers Polymestor's treachery, and all her deeply rooted beliefs about the fundamentality of human moral law, along with herself, are shattered. She now becomes the personification of vengeance. The result is that once these agreements break, so does the person that had internalised them as their own ethical system (Nussbaum 2001, p. 399).

Following Nussbaum's reading of the tragedy, Hecuba's story may be understood as an analogy of the life of a dog that has turned into a wolf and is unable to act as a member of a human society. Though Hecuba has become an individual, she is someone who has lost all control and freedom over her life to destructive vengeance. Polymestor in fact gives a vivid account of Hecuba's vengeful actions against him: 'They [Hecuba and the women] suddenly pulled daggers from their robes and butchered both my sons, while troops of women rushed to tackle me, seizing my arms and legs and holding me down. I tried to leap up but they caught me by the hair and pulled me down. I fought to free my arms, but I was swamped beneath a flood of women. I could not move. And then they crowned their hideous work with worse, the most inhuman brutal crime of all. They took their brooches and stabbed my hapless eyes till they poured out blood! Then they ran for cover, scattering through the tent. I leaped to my feet, like a wounded beast chasing a pack of hounds, tracking along every wall, like a hunter beating and striking everywhere' (1160-75). In Polymestor's words dog and hunter are divorced and we see him associate the hunter with the wounded beast. Once the intimate bond, the societal contract, between the dog and the hunter has been broken, the hunter no longer knows who is the enemy and blindly aims at everyone and everything. The masterless pack of dogs, unable to self-organise, ran for cover and scatter (Nussbaum 2001, pp. 397–421).

In the *Choephori* Electra, like Hecuba, transgresses the same ethical norms she is defending. Electra's inability to comply with the demands of complacency placed upon her by her kins to let the death of her father unavenged and for her to be 'dishonored' and 'treated as worthless' (444) by the people that are representatives of moral convention; leads her to call herself a 'savage-hearted wolf' that has 'rage' (420–22) and a 'dangerous dog' (445). This indicates the possibility that a dog may, in its most dangerous state, be transformed into a wolf that is capable of savage acts. In the end, Electra commits the same crime her mother, and Hecuba, committed: she kills someone she was meant to honour and respect. The dissolution of the ethical system brings Klytemnestra, much like a wolf-like dog that kills its master, to kill her husband, Electra's father, and Electra to kill her mother.

Madness and dogginess can be used as interchangeable terms in the *Bacchae*. The Chorus urges the women of Thebes, who are the female worshippers of

Dionysus and, like the Erinyes, are called 'maenads', to 'run to the mountain,' and calls them 'hounds of madness!' (Euripides, *Bacchae*, 977). And after Cadmus informs Agave that Pentheus was killed by dogs (1290–1), implying that herself and the maenads were dogs; he goes on to answer her other question: 'Agave: What were we doing in the mountain? Cadmus: You were mad' (*Bacchae*, 1294-5). Here again we see the same pattern as in the stories of Herakles and Actaeon's dogs²⁶: Agave too blinded by the 'dogs of *Lyssa*' (977; Cf Aeschylus, Xanthriae fr.169)²⁷ has savagely killed someone with whom they share a bond, her son.

The exploitation of the dog's dualistic tendencies to create morally ambiguous characters is intensified in the *Bacchae*. For they are simultaneously faithful followers of their master's commands, and blood-thirsty hunters of strangers (Franco 2014, 98). Both the Erinyes and the maenads are called dogs, or dog-faced, because, from the perspective of those with whom they are not in conspiracy, they are vicious man-eating disturbed figures. Yet this is sharply contrasted with the image of the maenads as 'modest and sober' (686), with that they are said not to be in a 'maddened wandering' or 'led astray' (*Electra* 1253; cf. *Bacchae* 687), and with that they are further said to be 'wise hunters' (*Bacchae* 1189–91). The moment upon which the women have turned into maenads is not defined by a heinous act of betrayal towards the ethical laws of the city, but by the rather innocent act of not being *in par* with society as such.

The wise madness of the maenads is intertwined with their fleeing to Nature and their refusal to re-enter society. They embrace the 'brute wildness' of the mountain of Cithaeron along with its flora and fauna. All social strata have collapsed: 'a lovely sight to see: all together the old women and the young and the unmarried girls' (693–4). All pretension to urbanism has been dropped: 'First they let their hair fall loose, down over their shoulders, and those whose fastenings had slipped closed up their skins of fawn with writhing snakes that licked their cheeks... Then they crowned their hair with leaves, ivy and oak and flowering bryony' (695–703). That is to say that the madness of the maenads further consists in that they followed the demands of nature over those of rationalised civility. And in the mountains, instead of a society, they have formed a community of coexisting individuals that have become assimilated to their natural surroundings. Aggression overtakes them only when they are threatened. And Agave killing her own son becomes a horrifying reality only once she has returned to an organised and morally oriented society; and when relational values have been restored. (Nussbaum 2001, pp.399-401)

Men in tragedies, unlike women, are most often called 'dogs' in a negative way only indirectly²⁸: either by proxy, or, by way of their actions being recognisably doggish. Peleus calls Menelaus a dog by proxy (*Andromache*, 625–31): 'Were you so afraid to lose your wicked wife? And when you took Troy... and caught your worthless wife, you didn't kill her. No, when you saw her breast, you threw down

²⁶On the similarities between the myth of Actaeon and the Bacchae, see: Frontisi-Ducroux (1997, pp. 437–438).

pp. 437–438). ²⁷On the similarity of function between the Erinyes and 'the dogs of Lyssa,' see: Dodds (1960, p. 199).

²⁸That is not the case in the wider literature.

your sword and kissed her, fawning on the treacherous bitch, overcome by Aphrodite you disgusting man!'. The accusations of shamelessness are directed both toward Menelaus and Helen. Menelaus is the husband of a dog and by showing slavish desire for her, he himself also acts as one. In other words, Menelaus is acting like a dog because he is acting like a shameless woman. Similarly, when Klytemnestra 'speaks of this man [Agamemnon] as the watch-dog of his homestead' (896), she uses 'watch-dog' in the same ironical tone as when she used the term for herself. That is, though she *prima facie* calls him a dog in a positive way directly, she is in fact indirectly insulting him. For he is not a 'watchdog,' as in protector; like herself²⁹, he is exactly the opposite: he is powerless against what awaits him. Polymestor is also a dog in this way, for he calls Hecuba a dog based on the nature of her actions, and yet they both act and speak to one another in exactly the same manner: they are both only moved by uncontrollable rage.

There are two exceptions to this rule. One exception was, as we saw earlier in this section, the men of Aegyptus. This may be justified in that they were foreigners and bringers of war in an otherwise peaceful city. But, also in that in their unholiness, they are utterly masterless. The other is a case in which 'dog' is used as a positive epithet- this also being the only unambiguously positive instance. In Sophocles' Ajax (10–30), Odysseus indirectly describes himself as a dog by way of how he describes his actions: he is 'tracking down' and 'prowling round to catch an enemy.' Later in the play, the suspicion that Odysseus is indirectly calling himself a dog in that passage is confirmed when Athena calls Odysseus 'a keen Spartan hound upon the scent' (8). Odysseus is Athena's hound. And, given that Athena is thought to represent the voice of reason in people's minds, Odysseus, the hound of reason, comes in direct opposition to the Erinyes, the hounds of irrational vengeance. The fact that Athena is calling him a hound within a context of praise renders the simile a positive one.

More important, however, is the fact that in his activity as a dog, Odysseus is using canine reasoning of the sort noticed by Chrysippus and Aelian. This is best seen in Odysseus' knowledge of Athena's presence: he has 'grasped her sounds in his mind' (16) and directly recognises her even if she is invisible simply by hearing her voice (13–17). It can also be seen in that we are told that he decides his tactical moves against his enemies by 'sniffing them out' (2). Like the dog of Chrysippus, he is 'scouring and comparing tracks' in order to 'trace fresh printed movements, and determine whether he is inside or not' (4–6). And like Chrisippus' dog, Odysseus succeeds in finding his way to his prey (7). Even more remarkable is the fact, however, that through canine reasoning, Odysseus is the one tragic dog that escapes madness and misfortune.

²⁹Klytemnestra calls herself a 'watch-dog' which initially seems to means faithful, but interpreted ironically, it means faithless. For the dog-epithet in Agamemnon, see: Saayman (1993, pp. 9–13). ³⁰In line 12 of the Ajax, Odysseus is also seen resembling a dog, such as Aelian's dog who reentered the battle after giving birth, in that he shows little concern for the the distinction between safety and pain. For the connection between Odysseus and dogs, see: Rose (1979, pp. 215–230).

Philosophical Dogs

Do philosophical dogs, like Odysseus, escape madness?³¹ What does it mean for a lover of wisdom to be and behave like a dog?³² And what is wisdom in this context? A dog, being an animal, does not possess reasoned speech (*logos*); which prompts the question: how does one go about doing philosophy without *logos*? Can there be a systematic philosophy that does not primarily stem from *logos*, but instead from indicative symbolic sounds and performative acts? How do the Cynics make philosophy out of the behaviour of dogs? I propose that, by living the life a dog, Diogenes corroborated the otherwise frightening idea that dogs are indeed our superiors (Denyer, unpublished).

The name of 'Dog' (Aristotle, *Rhetoric*, 3.10.1411a25)³³ may have been attached to the Cynics by association with the gymnasium of Cynosarges (Billot 1994, vol. 2 917–66; Navia 1996, 15–7, 19, 20, 56, 59, 69; Harvey 2011, 165), where Antisthenes the Cynic had taught and Diogenes had also spend part of his life being taught (Navia, 1998). That location was a place characterised by the fact that foreigners, people in exile and generally social outcasts resided there. Therefore, this historical point does not speak against the second, yet not secondary reason for the dog epithet being attached to Diogenes and in fact the rest of the Cynics: namely, the cultural association of dogs with shamelessness and madness.

The identification of dogginess with madness in the case of Cynicism is long-standing: Alberti in 1450³⁴ dismissed the early Cynics on account of the fact that they 'are concerned only with criticising and insulting each other, and their rejection of social life is condemned as a form of madness' (Alberti 1942, p. 120)^{35,36}. Diogenes's alleged madness can also be seen in Stobaeus's *Florilegium*: "Someone said that Diogenes was out of his mind. 'I am not out of my mind,' he replied, 'but I don't have your mind'" (Stobaeus, 3.3.5). Furthermore, Diogenes Laertius's *Lives of the Philosophers* includes the following *chreia*³⁷: "When [Plato] was asked by someone, 'What sort of person does Diogenes seem to you to be?', he answered, 'A Socrates³⁸ gone mad [*mainomenos*]'" (D. L. 6.54. Cf. Ael.,

³¹For the connection between madness and Cynicism, see: Krueger (1996, pp. 101–102).

³²Also, Denyer (unpublished). On the identification of dog and Cynic in collections of Cynic anecdotes, see for example D.L. 6.33, 40, 61, 77. In modern scholarship: Lipsey (1989, pp. 50–59). ³³A proponents of the view that Antisthenes was the 'Dog' in Aristotle's *Rhetoric*, see: Bracht et al. (1996, pp. 414–415). For a convincing opponent of this view, see: Zaccaria (2017, pp. 364–370).

³⁴On the reception of Diogenes in the Renaissance, see: Livsay (1948, pp. 447–455).

³⁵"omnibus maledicere et mordere, ne vero is non furor est, molle rebus perfrui quae ad cultum, ad victum faciant, quibus caeteri omnes mortales utantur?… stultitia est."

³⁶Furthermore, 'plague of madness' that devastated the city of Amida in 560 involve alleged cases of people barking like dogs (Michael the Syrian, *Chronique* 9.32).

³⁷Cheiai are anecdotes or short stories often, but not exclusively, to do with the life and philosophy of the Cynics. Most of the Cynic-themed *chreiai* are about Diogenes of Sinope. Though they may be biographically unreliable, they do reveal Diogenes' general philosophical attitudes. More on the *chreiai* can be found in: Navia (1998, p. 45) and (1996, 32n17, 133).

³⁸On the similarities between Socrates and Diogenes, see: Amelung (1927, pp. 281–296), McKirahan (1994, pp. 367–391), Navia (1993).

Var. Hist. 14.33).³⁹ One may rightfully connect the proposed madness of Diogenes of Sinope in Diogenes Laertius' *Lives* with Diogenes Laertius's reports of an uncertainty over whether Cynicism constitutes a philosophy (D.L. 6.103). As such, Diogenes of Sinope is someone who acts even more strangely than Socrates from the point of view of the ancient Greek observer, but lacks the philosophical foundations to justify his anti-social strangeness and elevate him from madness. To be mad in this context then, is to act strangely without reason. The question arises then as to whether Diogenes was mad, that is, as to whether Diogenes lacked philosophical foundations.

Even though his reasoning may at times contain some form of argument, the way the *chreiai* are worded shows Diogenes' derision for the common usage of philosophical argumentation. ⁴⁰ To someone who professed to be a philosopher but engaged in sophistical quibblings, Stobaeus tells us, 'you [Diogenes] wretch, you defile what is best in a philosopher's life by your means of argument, and yet you claim to be a philosopher' (Stobaeus 3.33.14). There are whole series of *chreiai* (e.g., D.L. 6.25, 6.69, 39-40; cf. Lucian, *DMort.* 1.2; Gel. 18.13.7–8) to illustrate Diogenes' distaste for theory and argument (Denyer, unpublished). 'Once a dialectician from Plato's school put it forward hoping to make fun of him. For when the dialectician had asked, 'That which I am, you are not?' and Diogenes first assented, and he then added, 'Now I am a human being', and Diogenes concluded: 'So it follows that you are not a human being.' 'Now that', replied Diogenes, 'is false, but if you want it to become true, start off with me'' (Aul. Gell., *AN* 18, 13.7–8).

In other words, Diogenes may use human language and basic forms of inductive and deductive reasoning, but he does not exceed the limit of what is necessary for him to be understood. His arguments are never elaborate, never embellished and often accompanied by performative symbolic actions, e.g. defecating in public, and sounds, e.g., barking. To someone running into him with a plank saying, 'Watch out!', Diogenes struck him with his stick and cried, 'Watch out!' (D. L. 6.41); when someone proved by an impeccable deduction that he had horns, he touched his forehead and said, 'Well, I don't see any.' And likewise, when somebody said there is no such thing as motion, he got up and walked around (D. L. 6.38–9)⁴¹; and when Plato defined man as a two-footed animal without wings, and was praised for it; Diogenes plucked a cock and brought it into the lecture hall, saying, 'Here's Plato's man!' As a result the definition was supplemented with the phrase 'having broad nails' (D. L. 6.40).

Instead, the kind of reasoning favoured by Diogenes is the kind of prudential reasoning of dogs such as that of the dog that attended to the fifth indemonstrable syllogism and the kind exercised by Odysseus in *Ajax*. That is, Diogenes should be thought of as 'a keen hound upon the scent' of virtue. The kind of virtue that, much like in the case of maenadic virtue, is not defined by, nor assessed by the degree to which it serves, society. But, one that he can sniff out with his nose, and can catch it with his teeth:

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³⁹Many of the Diogenes texts I cite here can also be found in: Giannantoni (1990).

⁴⁰On Diogenes' rhetoric, see: Bracht Branham (1993, pp. 445-473).

⁴¹See also Simplicius, *On the Physics*, p. 1012, lines 22-26.

"Socrates: 'Come, see that you catch some in the air when I throw you some piece of knowledge about celestial beings.' Strepsiades: 'What is that? Am I to eat wisdom in tidbits, like a dog?'" (Aristophanes, Clouds 489-91; Cf. Plutarch, On the Intelligence of Animals 13 (969f)

To which question, on the condition that we substitute 'celestial beings' for 'Nature,' we can imagine, Diogenes would have answered an emphatic 'yes,' .⁴² For to live in accordance with Nature in Cynic philosophy means to be selfsufficient, free from societal norms and capable of some kind of reasoning, Diogenes 'the Dog' cannot be said to be a philosopher, if philosophy is restricted to formal arguments and abstract theorising. Diogenes' reasoning instead involves the 'modesty and sobriety' (686) of the Bacchae, which stems from the axiom that epistemic distinctions and judgements that are there to give reason to, accommodate the demands of, and are enforced by, society are false. 43 Reasoning, according to Cynicism and the canines, is supposed to aid personal freedom qua absolute necessity instead.

That Diogenes the Dog imitated dogs in their disregard for these kinds of distinctions can be seen in a notorious chreia found in Plutarch's De Stoicorum Repugnantiis: "He [Chrysippus] praised Diogenes for rubbing away on his genital organ in public and saying to the bystanders 'If only it were as easy to rub hunger away from my stomach" (21.1044b). An astute observation by Denyer is that Diogenes in Plutarch's chreia about him is 'rubbing away' distinctions between public and private spaces, bodily parts that are considered appropriate to expose to the public and those that are not; but also, citing Dover, 44 distinctions between 'slave and free, between urban and rustic, and between male and female, 45 human and animal' (Denyer, unpublished). Indeed dogs disregard this distinction without asking for human permission.

Another such example is Diogenes' very embrace of the epithet 'The Dog' (D.L. 6.33). The epithet kyon and its derivatives were primarily used, as we saw in the previous section, as insults against women often with the implication that the insulted party is mad. By the mere act of embracing dogginess, Diogenes undermined fundamental distinctions upon which Athenian society operated: between male and female, human and animal, sanity and insanity. Pace Sedley (1980, pp. 1–17), someone who chooses the argumentative style of a dog, that is to say ,someone that enacts the dissolution of certain distinctions and the creation of others based on down to earth axioms of virtue, can legitimately be said to be a lover of wisdom in a complete and systematic fashion (Denyer, unpublished).

Diogenes, that is, is not anti-philosophy per se, but is instead against a culture

⁴²For example, see: Long (1996, p. 34), Navia (1998), Dudley (1937).

⁴³The Cynic jargon for false judgement is 'typhos.'

⁴⁴Dover (1978, p. 97): 'There is a certain tendency in comedy to treat masturbation as behaviour characteristic of slaves, who could not expect sexual outlets comparable in number or quality with those of free men...'.

⁴⁵That masturbation was believed to have been exercised among the female citizens can be seen in Aristophanes's Lysistrata 108-110, 158 and Ecclesiazousai 915–918.

of philosophy. ⁴⁶ Diogenes, in other words, is anti-banquet: against symposiums where people would intoxicate themselves and engage in abstract theorising. He is against philosophy for the sake of philosophy and seeks, similarly to members of the Vienna Circle, ⁴⁷ to minimise and eradicate it. Knowledge instead is to be expressed as an instinctive response to circumstances as they come. The dog fits this requirement nicely for, both in its practical and intellectual life, it is a self-sufficient (*autarkēs*) agent. And, what it means for knowledge to be understood as an innate instinctive response can be seen in the *Republic*:

"'And does it seem to you also that the future guardian must have this additional characteristic, that besides being spirited, he must also be by nature a lover of wisdom [philosophos]?'

'How is this?' he said. 'I don't understand.'

'This too,' I said, 'you have noticed about dogs, something truly surprising for an animal.'

'What?'

'That when it sees someone unfamiliar it becomes aggressive, even if it has suffered nothing bad from them, but when it sees one it knows it greets them warmly, even if it has received no benefit from them. Haven't you ever marvelled at this?'

'No,' he said. 'I had not noticed that before. But that is certainly how they behave.'

'Well, this element of their nature seems a fine one, something truly wisdom-loving [philosophos].'

'In what sense?'

'In the sense,' I said, 'that it has no other criterion for distinguishing friend from enemy than that it knows the one and doesn't know the other. And how could any being not have a love of learning that defines the familiar and foreign by knowledge and ignorance?'"

(Plato, Republic 375e-376b)

According to Socrates' argument, the philosopher-dog is the guard *par excellence* precisely because, in its love for wisdom, knowledge is the only standard by which the dog makes distinctions by way of its sight, smell, or its other senses. For Diogenes the function of knowledge is to aid one in maintaining life, not to create a culture of living or a life-style. According to Diogenes the two pursuits are incompatible. For all its lack of embellishment, dog's prudential reasoning makes for a better life than human reasoning. That is because the reasoning of the dogs is less attuned to desire and self-identity and more attuned to necessity which makes them more predisposed to recognising and choosing virtue over vice:

"This was Argus...

a dog lying there lifted its nose and ears,

Argus, of long-suffering Odysseus—he had raised the dog

but could not enjoy him, since he left for sacred Ilium beforehand.

...he lay there in a lot of dung in front of the gates,

⁴⁶On the anti-intellectualism of Diogenes, see: Meilland (1983, pp. 233–246), Navia (1995).

⁴⁷Members of the Vienna Circle aimed at clarifying philosophy to its elimination as a field.

strewn there in quantities from mules and cattle...
There the dog Argus lay,
infected with dog-pests.
... on seeing Odysseus close by,
it wagged its tail in greeting and lowered both its ears..."
(Homer, Odyssey 17.291–4)

Argus was quick to notice the only distinction that truly matters: that between vice and virtue (Denyer, unpublished). For the life led by the suitors, however luxurious, safe, clean and comfortable, is a vicious one, and the life of Odysseus, as Diogenes sees it, however beggarly, dangerous, filthy, and painful, is virtuous (*Od.* 13. 437). Odysseus and Argus resemble each other both with regards to their physical and moral state. As such they recognised and rejoiced in each other's image, as unrecognisable and miserable it may have seemed. And both of them rejected the image of the suitors, no matter how exuberant and beautiful they may have seemed. Diogenes, in a *chreia* by an 11th century Arabic scholar Mubassir, is seen embodying Argus and Odysseus's attitude when, to the question as to why he is called the Dog, he replied that it was because he knows to bark at the foolish and respect the wise. Yet, to the eyes of the suitors, much like in the eyes of those who are perceived as strangers by the maenaeds, Argus and Odysseus' rejection was a social transgression.

To question social convention is to question the necessity of society. To Diogenes Athenian society was a society of suitors: "When he was going back from Sparta to Athens, someone asked him 'Where have you come from? And where are you going to?' Diogenes replied 'From the men's quarters to the women's" (D.L. 6.59). "When asked where in Greece he could see good men, he said 'Good men nowhere, but good boys in Sparta" (D.L. 6.27; Arsenius p. 198, ll. 23–25). Yet, Diogenes did not simply question Athenian society, but society as such. One *chreia* tells us of a Spartan who praised the line from Hesiod which says, "Not an ox would be lost if your neighbour were not bad"; and on hearing this, Diogenes said, 'Why, to be sure, the Messenians and their oxen have been lost, and you are their neighbours' (Ael., *Hist. Misc.* 9.28). Another *chreia* tells us that "Diogenes went to Olympia, and saw at the festival some lavishly clothed young Rhodians. 'That's deceptive behaviour,' he said. He next encountered some Spartans in cheap and dirty tunics with only one sleeve. He said 'That's even more deceptive'" (Ael. *VH* 9.34).

Diogenes' performative contributions to his arguments were in the form of social transgressions which invited the accusation of madness. Diogenes' transgressions are a lot smaller and seemingly insignificant, yet a lot more systematic, and most definitely consciously and argumentatively intentional, compared to the transgressions of the tragic dogs. Diogenes may have eaten raw meat and human flesh, but as a dog he did not kill any of his kin, nor is he seen involved in a great dispute for disobeying his parents. That is because Diogenes' disdain for societal status frees him from any commitment to fight for his honor, or for the honor of a family member, or that of the city. For Diogenes being virtuous means having neither honour in society nor dignity.

There are many *chreiai* that illustrate Diogenes's commitment to a doggishly

ethical, and rather sane, life. But, perhaps the one that ties together the way in which Diogenes has been talked about in this paper, can be seen in Maximus of Tyre's description of him: "The man from Sinope in Pontus, after consulting the Apollonian oracle, stripped from himself all unnecessary things, broke asunder all the chains that had previously imprisoned his spirit, and devoted himself to a wandering life of freedom, like a bird, unafraid of tyrants and governments, not constrained by any human laws, undisturbed by politics and political events, free from the hindrance of children and a wife, unwilling to work the fruits of the earth in the fields, rejecting even the thought of serving in an army, the contemptuous of the market activities that consume most people" (*Or.* XXXVI, 5).

Conclusion

The epithet 'dog,' which was used at a societal and literary level to denote a rather mad character that is incapable of reasoning, undergoes a positive transformation which emphasizes central features of Cynic philosophy. Both tragic and philosophical dogs may in a way be understood as a case of bestial madness similar to that of Nebuchadnezzar, who was given 'the heart of a beast' such that 'his life appeared of no value to him... he does not love son or daughter... family and clan does not exist' (Daniel 4:13). Both tragic and philosophical dogs become shameless in that, at least at one way or another, they do not recognise or accept traditional relational values.

The majority of the tragic dogs are Ophelic women driven mad by mistreatment and loss. As such their shamelessness is more or less purely destructive. Hecuba is the epitome of the destructive dog for, driven by vengeance, she aims at eliminating life. The *Bacchic maenads* and Odysseus in the *Ajax* are in certain ways the exceptions to the purely destructive rule and stand in greater proximity with the Diogenean life.

Though Diogenes, on the other hand, may appear at first sight as though he is simply a deranged beggar who has chosen a Hobbesian existence similar to the 'Bedlam beggar' (Shakespeare, *King Lear*) who deliberately disguises himself as a madman and wanders naked through the countryside. He is in fact closer to Shakespeare's Fool in *King Lear* whose mental state (which is best understood as a doggishly philosophically inclined mind in Diogenes' case) licenses him to tell truths socially-saner mortals dare not to utter. Diogenes' shamelessness is productive- and manages for that reason to escape madness- in that it aims at a virtuous life. That is, in his rejection of morality founded upon *a* society, there is Natural life.

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⁴⁸On Cynicism and King Lear, see: Butler (1986, pp. 511–524), Doloff (1991, pp. 253–255); Donawerth (1977, pp. 10–14).

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