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Du pastorat divin au gouvernement humain

Sur la genèse et les limites de la politique dans le *Politique* de Platon

Richard Romeiro Oliveira

The *Statesman* can be considered one of the most difficult platonic texts to read. However, if one analyzes the work carefully, it becomes easy to realize that it gives us, through the development of a dialectical research centered on the definition of the political man (πολιτικός ἀνὴρ), a precious philosophical teaching on the nature of the politics and its inherently human character, teaching that should be taken into account not only for the understanding of the meaning of this particular dialogue but also for the understanding of platonic political theory as a whole. In this article, we will try to understand this aspect of the *Statesman* by analyzing two parts of the text that are of fundamental importance to its economy: that relating to the myth of Kronos (268d-277c) and that devoted to the theory of the best regime (292d- 303 d).

Introduction

Comme l'a bien constaté S. Bernardete dans un article publié dans la revue *Métis*¹, le *Politique* est sans aucun doute l'un des dialogues les plus complexes et les plus déconcertants de Platon, surtout en ce qui concerne son organisation formelle et sa structure argumentative. L'avis de Bernardete est corroboré par d'innombrables spécialistes, dont Rosen, qui a déclaré dans une étude déjà célèbre sur ce dialogue : « Le *Politique*, bien qu'il ne soit pas la dernière des productions de Platon, se distingue parmi les derniers dialogues par son obscurité».² Malgré cela, l'ouvrage apparaît au sein du

¹ S. Bernardete, « The plan of the *Statesman* ». *Métis*. Anthropologie des mondes grecs anciens, vol. 7, no. 1-2, 1992, p. 25.

² S. Rosen, *Plato's Statesman. The Web of Politics*. New Haven and London: Yale University Press, 1995, p. 1. Sur le caractère déroutant de l'organisation du *Politique*, voir aussi les remarques de J. Sallis dans l'introduction de l'ouvrage *Plato's Statesman. Dialectic, Myth, and Politics*. Edited by J. Sallis. Albany, State University of New York Press, 2017, p. 1. On peut trouver un plan schématique du dialogue dans L. Brisson; J. -F. Pradeau, *Platon. Le Politique*. Présentation, traduction et notes. Paris, Flammarion, 2003, p. 19.

corpus platonicien comme l'un des plus importants, dans la mesure où il contient des formulations philosophiques dont la compréhension est indispensable au correct entendement du type de théorie politique élaborée par le philosophe. En effet, à partir d'une ζήτησις dialectique sinueuse réalisée par rapport au problème de la définition de l'homme politique (πολιτικὸς ἄνθρωπος), le dialogue finit par nous fournir un enseignement radical et philosophiquement provocant sur la nature de la politique, un enseignement qui nous permet d'entrevoir ce qu'est le phénomène de la politique dans son sens le plus profond, voire originaire, tout en montrant en même temps comment ce phénomène est lié à ce qui est le plus fondamental – et donc le plus tragique ou dérangeant – dans la condition humaine. Il est évident que cet enseignement ne nous est pas transmis, dans le *Politique*, au moyen d'une argumentation systématique et linéaire, qui déboucherait à des formules philosophiques de saveur dogmatique : il s'agit plutôt de quelque chose qui émerge graduellement dans ce dialogue à partir d'un développement discursif complexe et parfois déroutant, exigeant par conséquent, pour son appréhension adéquate, une lecture attentive de l'œuvre, ce qui n'est possible que par un travail d'analyse et d'interprétation rigoureux et obstiné.

Quoi qu'il en soit, on pourrait anticiper ici à des fins didactiques quelques questions qu'on va essayer de rendre manifestes plus tard à ce sujet et dire d'emblée que la recherche menée à bien par le *Politique* en ce qui concerne le phénomène de la politique dans son sens originaire vise à dévoiler au moins deux aspects fondamentaux au regard de cette question. Le premier a trait à ce qu'on pourrait appeler « la dimension humaine de la politique ». Dans ce cas, ce que le dialogue prétend mettre au clair c'est le fait que la politique est une activité exercée par les hommes et pour les hommes, une activité donc fondamentalement humaine et non divine, de sorte que sa genèse implique nécessairement l'établissement d'une émancipation de l'homme par rapport à ce qui serait un domaine théologique exercé directement par des entités numineuses. Le deuxième aspect, intimement lié au premier, consiste à montrer que la politique, précisément parce qu'elle est une activité humaine et non divine, n'est pas une praxis toute-puissante ou absolue et constitue par conséquent une réalité qui a toutes les limitations et les insuffisances inhérentes à ce qui appartient au monde des hommes, ce qui rend impossible une parfaite ordonnance de ses éléments constitutifs. En observant ces points, on peut dire donc que le *Politique* nous présente une compréhension de la politique résolument humanisée, qui rompt avec une représentation archaïque ou traditionnelle de la souveraineté en tant que manifestation directe ou immédiate d'une autorité divine (dont

on trouve en Grèce des vestiges dans les poèmes homériques et dans le pythagorisme)³, rendant manifeste que le surgissement de la cité (πόλις) et de son régime organisateur (πολιτεία) suppose nécessairement le « retrait des dieux » et l'émergence d'une certaine autonomie de l'homme – autonomie qui trouve, comme le dialogue nous le montre, dans l'irruption de l'art et de la connaissance technique (τέχνη) son signe le plus évident ou indubitable.

Néanmoins, il faut nuancer ici ces assertions et reconnaître que ce qui a été dit n'est qu'un aspect de la question, car si Platon, dans le *Politique*, propose une compréhension résolument humanisée de la politique (en cela s'approchant des sophistes), il n'enferme pas entièrement le phénomène politique dans la pure immanence historique, effectuant sa laïcisation complète et rejetant tout repère qui serait dans une certaine mesure transcendant (ce qui marque la différence de la philosophie politique platonicienne par rapport à l'athéisme sans concessions professé soit ouvertement, soit de manière voilée par les sophistes). En effet, la pensée politique de Platon n'adhère jamais à la rhétorique iconoclaste de l'humanisme athée alors en vogue dans certains cercles intellectuels des V^e et IV^e siècles (les *Lois*, le dernier dialogue écrit par le philosophe, avec son projet de πολιτεία basé sur un système de croyances complexe et méticuleux concernant les dieux, nous en fournit une preuve accablante, démontrant ainsi que dans la perspective platonicienne la prétention de destruction de l'influence sociale de la religion a un caractère politiquement problématique⁴), et si le retrait des numes et de la souveraineté théologique qui est à eux associée est ce qui, dans le *Politique*, permet l'apparition de la politique, cela ne signifie pas que dans ce texte le divin a été

³ Cf. H. Joly, *Le Renversement platonicien. Logos, episteme, polis*. Paris, Vrin, 1974, p. 290: "Platon rompt avec le principe archaïque d'une théologie politique directe pour jeter les bases d'un positivisme historique et humaniste". Sur la croyance au caractère divin de la royauté dans les poèmes homériques, voir les remarques de F. R. Adrados, « Instituciones micénicas y sus vestigios en el epos », dans *Introducción a Homero*. Editada por Luis Gil. Madrid, Ediciones Guadarrama, 1963, p. 330. Il est important d'évoquer ici cependant la position de R. Brock, selon laquelle, bien que l'image des rois en tant que divinités se trouve dans certains passages de poèmes homériques, il s'agit là d'un phénomène atténué, surtout si l'on établit une confrontation avec ce qui est observé dans les civilisations du Proche-Orient, où la représentation des souverains en tant que dieux était beaucoup plus forte et récurrente. Cf. R. Brock, *Greek Political Imagery. From Homer to Aristotle*. Bloomsbury Academic, London/New York, 2013, p. 1-24. Sur la croyance à la nature divine des rois dans le pythagorisme, voir A. Petit, « Le pastorat ou l'impossible raccourci théologico-politique », dans *Figures du théologico-politique*. Edité par E. Cattin, L. Jaffro et A. Petit. Paris, Vrin, 1999, 9-23.

⁴ Sur l'importance de la religion dans le projet politique des *Lois*, voir le travail classique de O. Reverdin, *La Religion de la cité platonicienne*. Paris, E. de Boccard, 1945.

complètement balayé de l'horizon de la vie humaine.⁵ Au contraire, comme le montre le dialogue au moyen de certains de ses développements discursifs les plus décisifs, si l'exercice de la praxis politique est, à proprement parler, une affaire des hommes et non des dieux (puisque c'est seulement où les dieux se sont retirés qu'un espace se crée pour le déclenchement de l'action proprement humaine), cela ne signifie pas qu'une certaine image du divin ne puisse fonctionner comme un modèle régulateur qui guide de loin l'activité politique et législative menée par les êtres humains dans les conditions précaires d'un monde abandonné à lui-même et privé de la supervision directe de la divinité.⁶

Comme l'on sait, dans le *Politique*, cette vision des relations entre le modèle divin et le monde précaire dans lequel les hommes agissent est clarifiée par l'application de la catégorie de μίμησις à la sphère politique (une véritable nouveauté théorique de l'œuvre, selon C. Kahn⁷), ce qui permettra à Platon de penser, dans ce dialogue, la médiation entre l'exemplarité d'un repère transcendant et l'activité politique exercée par les hommes dans sa condition d'impuissance ou d'abandon comme étant quelque chose qui requiert l'exercice d'une « imitation ». ⁸ Il faut cependant reconnaître que le recours de Platon à la catégorie de μίμησις finit par souligner le caractère problématique des relations

⁵ Je me permets ici d'être en désaccord avec la position de Bernardete, pour qui le *Politique* serait le seul dialogue « athée » de Platon. Cf. S. Bernardete, « The Plan of the *Statesman* », art. cit., p. 47.

⁶ Cf. H. Joly, *Le Renversement platonicien*, op. cit., p. 290, où se trouve exprimé cet aspect de la pensée de Platon dans les termes suivants: « [...] ayant refusé de choisir dieu contre l'homme, il refuse aussi de choisir l'homme contre dieu. A distance de dieu, l'homme ne doit point pour autant être 'séparé de Dieu'. C'est lui encore qu'il faut imiter dans sa vie 'théorétique' et, bien qu'il soit, comme être politique, rendu à lui même, c'est encore sur le 'Dieu-mesure' qu'il doit se régler ».

⁷ Cf. C. Kahn, « The place of the *Statesman* in Plato's later work », dans *Reading the Statesman*. Edited by C. J. Rowe. Sankt Augustin, Academia Verlag, 1995, p. 52 ; 54.

⁸ *Politique*, 292d-303d. Ce passage contient la typologie des formes politiques proposée par Platon dans le *Politique*. Le principe fondamental qui la soutient est l'idée que le meilleur régime, ou le seul régime réellement juste (ὀρθὴ μόνη πολιτεία), à savoir celui dans lequel un dirigeant sage et vertueux exerce le pouvoir de manière absolue et libéré des lois, distribuant une parfaite justice parmi ses sujets, ne peut être réalisé en tant que tel dans l'histoire et doit donc être compris comme un paradigme ou modèle imposé à l'imitation des régimes historiquement existants, qui ont tous dans le respect aux lois écrites (νόμοι) le pilier institutionnel foncier qui assure l'ordre qui les caractérise. Platon n'hésite pas à dire que le meilleur régime, conçu comme l'*imperium legibus solutum* du sage, a même un caractère divin, se définissant vis-à-vis des régimes historiques comme un « dieu à part des hommes » (οἷον θεὸν ἐξ ἀνθρώπων) (303b4), dans la mesure où la forme de gouvernement qui lui est propre nous rappelle ce qu'aurait été le gouvernement des bergers divins à l'époque légendaire de Kronos. On reviendra plus tard sur ces points dans cet article.

entre le principe divin et le monde mortel dans lequel se déroulent nos actions, fonctionnant ainsi comme un indice de l'indubitable éloignement du divin vis-à-vis des hommes, ce qui révèle, encore une fois et avec plus de force, la dimension humaine de la politique : l'imitation présuppose, en effet, le clivage entre le modèle et celui qui vise à le reproduire, de sorte que si les hommes imitent les dieux, c'est parce que les dieux se sont en quelque sorte éloignés, nous forçant à entreprendre la lourde tâche de nous diriger nous-mêmes.

En analysant les éléments philosophiques contenus dans ces formulations, on se rend compte que le *Politique* propose donc une compréhension quelque peu paradoxale du phénomène politique, située à mi-chemin entre une vision traditionnelle, qui se fonde sur le « principe archaïque d'une théologie politique directe »⁹ et dont on trouve une importante manifestation, dans le monde grec, soit dans les poèmes homériques, soit dans le pythagorisme, et le point de vue plus moderne et franchement laïcisé qui a été développé d'une manière vigoureuse et sans compromis par la pensée sophistique du V^e siècle. Compte tenu de cette composante théorique du dialogue, on peut dire que le *Politique* cherche à forger une conception politique qui se présente, en quelque sorte, comme une alternative philosophique aux deux positions indiquées, en préservant dans une certaine mesure une partie de l'enseignement traditionnel d'une manière qui n'est plus purement traditionnelle. À notre avis, nous avons ici l'un des messages philosophiques les plus importants de l'œuvre, qui recevra dans le célèbre mythe des cycles cosmiques une expression frappante de sa signification.

En effet, dans ce mythe-là, par le moyen de l'utilisation de matériaux mythologiques d'origines diverses, notamment ceux liés à l'âge d'or qui aurait prévalu à l'époque de Kronos et ceux concernant l'action légendaire de Prométhée en tant que donneur de connaissances techniques (ce qui aurait été approprié par la réflexion politique de Protagoras, selon ce que nous dit le dialogue homonyme), le *Politique* avance un enseignement anthropologique sur les enjeux de la genèse de la condition humaine elle-même et de la vie politique qui en fait partie, en établissant une opposition entre deux états distincts de l'histoire humaine : l'état idyllique et prépolitique appartenant au royaume de Kronos, marqué par l'abondance, la paix et le soin divin (ἐπιμέλεια),¹⁰ et l'état

⁹ H. Joly, *Le Renversement platonicien*, op. cit., p. 290.

¹⁰ Le terme grec ἐπιμέλεια, utilisé par Platon pour désigner la surveillance divine exercée sur les hommes à l'époque de Kronos (cf. *Politique*, 274b6 ; 274d3), signifie également, outre «soin» ou «sollicitude», « souci », « préoccupation ». Comme expliquent L. Brisson et J. -F. Pradeau, *Platon*.

d'indigence et de pénurie du monde actuel¹¹, marqué par le retrait des dieux, par la violence et par l'abandon du cosmos et du genre humain à son indépendance ou à son propre commandement¹², états auxquels correspondraient deux modèles de commandement ou d'ἀρχή différenciés, à savoir : le pastorat divin, propre de la condition prépolitique de l'homme, et le gouvernement véritablement humain, propre au monde abandonné ou autocratique. Dans ce qui suit, nous essayerons d'expliquer plus clairement ces contenus du dialogue, en commençant par une analyse rapide des arguments initiaux de l'œuvre qui conduisent à l'énonciation du mythe.

La Détermination du Caractère Epistémique de la Politique et l'Identification de la Science Politique (πολιτικὴ ἐπιστήμη) à la Science Royale (βασιλικὴ ἐπιστήμη)

Comme l'on sait, le *Politique* est, du point de vue littéraire et dramatique, la suite du *Sophiste*. Mais alors que dans le *Sophiste* un mystérieux Étranger d'Elée cherchait, à travers une discussion avec le jeune mathématicien Théétète, à définir cette figure intellectuelle controversée qui est le sophiste, dans le *Politique* ce même Étranger va maintenant tenter de définir ce qu'est l'homme politique (πολιτικὸς ἀνὴρ), ayant pour interlocuteur principal Socrate le Jeune. Il faut noter cependant qu'un important changement d'approche se produit entre ces deux dialogues, car si dans le *Sophiste* tout a été mis en œuvre pour fermer le sophiste dans le domaine de l'erreur (ψεῦδος), de l'imposture et donc du faux, dans le *Politique* nous trouvons l'effort dialectique opposé, dans la mesure où tous les arguments de cette œuvre reposent avant tout sur le principe philosophique selon lequel l'homme politique est quelqu'un qui agit conformément aux prescriptions rationnelles fournies par la science dont il dispose. Cette position est énoncée

Le Politique, op. cit., p. 35, note 1, « l'*epiméleia* désigne le soin que l'on prend d'un objet ou d'une personne, ou la préoccupation (le 'souci') qu'ils sont susceptibles d'inspirer. Il s'agit à la fois d'une disposition, en l'espèce d'une attention, mais aussi bien de sa mise en œuvre, en l'espèce du soin effectivement prodigué ». N.B.: On utilisera dans cet article, pour les citations du texte grec du *Politique*, l'édition établie par A. Diès, *Platon. Le Politique*. Texte établi et traduit. Paris, Les Belles Lettres, 1970.

¹¹ Le terme que Platon utilise dans le *Politique* pour désigner la situation de précarité engendrée par le retrait des dieux à la fin de l'âge de Kronos est ἀπορία (cf. 274b5), terme qui signifie à l'origine, dans un sens plus littéral, « difficulté de passage », mais qui a pris aussi le sens de « manque », « privation », « indigence », « pauvreté ».

¹² Dans le dialogue, le mot utilisé par Platon pour désigner le monde émancipé du contrôle divin est αὐτοκράτωρ (cf. *Politique*, 274a5), qui signifie « indépendant », « libre », « maître absolu de soi », « doté de pleins pouvoirs ».

pour ainsi dire dès le début du dialogue, puisque la première question posée par l'Étranger à Socrate le Jeune porte précisément sur cela, ce qui permet ainsi à l'Étranger d'avancer d'emblée l'exigence épistémologique fondamentale à partir de laquelle la praxis du πολιτικὸς ἀνὴρ sera pensée tout au long du texte :

- L'Étranger: Toujours est-il, cela est évident à mes yeux, qu'après le sophiste, c'est sur l'homme politique que doit porter notre enquête. Or, dis-moi, devons-nous le placer parmi les gens qui possèdent une science? Sinon, comment le considérer? (καὶ μοι λέγε πότερον τῶν ἐπιστημόνων τιν' ἢ μὴν καὶ τοῦτον θετέον, ἢ πῶς;) – Socrate le Jeune: Oui, parmi ceux qui possèdent une science.¹³

À la suite du débat, l'Étranger montrera à son interlocuteur qu'un tel homme politique se confond au bout du compte avec le vrai roi (ἀληθινὸς βασιλεύς) et que celui-ci fonde son autorité avant toute autre chose sur une science spéciale, la science royale (βασιλικὴ ἐπιστήμη), qui constitue ainsi le principe cognitif ou épistémique vraiment foncier qui définit la forme différenciée par laquelle, dans son cas, l'exercice du pouvoir a lieu. Selon l'Étranger, peu importe que cet homme occupe effectivement un poste de commandement dans la cité, agissant concrètement comme un gouvernant (ἄρχων), ou qu'il vive comme un obscur particulier (ιδιώτης) dans un domaine simplement domestique, car ce qui lui confère le titre de roi n'est que le fait qu'il dispose de l'art royal (βασιλικὴ τέχνη) et non la possession actuelle de la prérogative du commandement.¹⁴ Commentant cet enseignement qui apparaît au début du *Politique* et qui avance une compréhension strictement cognitiviste de la praxis politique, Brisson et Pradeau expliquent : «de toute évidence, Platon défend ainsi la 'scientificité' de l'activité politique, son caractère cognitif, en refusant d'emblée qu'on la réduise à n'être qu'une activité pratique».¹⁵ En regardant ce dernier point, on peut dire que le *Politique* prolonge l'enseignement cognitiviste de la *République* sur la possession du savoir comme condition *sine qua non* du gouvernement de la cité, de sorte que la figure du politique décrite dans ses pages peut être vue en conséquence comme une autre version du roi-philosophe présenté dans la *République*. La nouvelle tâche assumée par Platon dans le contexte philosophique du *Politique* consiste maintenant à tenter de déterminer d'une manière plus rigoureuse la nature et le mode de fonctionnement de ce savoir qui a pour

¹³ *Politique*, 258 b. Traduction de Brisson et Pradeau.

¹⁴ *Politique*, 259 b.

¹⁵ L. Brisson ; J.-F. Pradeau, *Platon. Le Politique*, op. cit., p. 28

mission mener à bien tout ce qui concerne le gouvernement de la cité, en le présentant comme une véritable τέχνη ou expertise et en démontrant par là comment il est appliqué aux circonstances particulières et à l'organisation de la vie politique concrète.¹⁶

Quoi qu'il en soit, ces propositions initiales du *Politique*, qui déterminent le politique comme un sage et l'identifient au roi, conduisant *ipso facto* à l'assimilation de la science politique (πολιτική ἐπιστήμη) à la science royale (βασιλική ἐπιστήμη), ont un ton délibérément polémique et renferment une forte provocation vis-à-vis du type de régime mis en place par la démocratie athénienne, impliquant même un défi à la situation politique présentée à l'époque par le monde grec dans son ensemble. En effet, l'affirmation préalable de l'activité politique en tant que savoir, c'est-à-dire en tant qu'activité requérant, pour son exercice légitime, la possession d'une ἐπιστήμη ou d'une τέχνη, constitue une formulation qui va à l'encontre du présupposé fondamental de la pratique démocratique à Athènes, à savoir la croyance que l'activité politique ne dépend pas de connaissances spécialisées et peut donc être exercée par tout citoyen, indépendamment de sa formation ou des connaissances qu'il possède éventuellement dans le domaine d'une τέχνη quelconque.¹⁷ Dans le *Protagoras*, cette conception démocratique apparaît avec éloquence dans le passage dans lequel Socrate, cherchant à défier la prétention protagorique d'enseigner «l'excellence ou la vertu politique» (πολιτική ἀρετή), évoque précisément l'exemple de ce qui se passe dans le fonctionnement habituel de la démocratie à Athènes, en disant qu'en ce qui concerne les questions techniques, telles que la construction d'un bâtiment public ou la fabrication de navires, les Athéniens n'écoutent que les experts ou les connaisseurs de ces sujets, sans prêter l'oreille au premier venu; cependant, en s'agissant d'une question relative à l'administration de la cité, n'importe quel citoyen peut exprimer son opinion et donner des conseils, soit-il «charpentier,

¹⁶ Cf. L. Strauss, « Plato », dans *History of Political Philosophy*. Edited by L. Strauss and J. Cropsey. Chicago, University of Chicago Press, 1987, p. 77: « The Statesman presents itself as a theoretical discussion of practical knowledge ». Suivant cette ligne d'interprétation, J. -F. Pradeau voit dans l'approche technique de la politique la vraie originalité philosophique du *Politique*, considérant ce texte comme le seul dialogue platonicien et même le premier ouvrage de l'histoire de la philosophie occidentale à sanctionner sans réserve la conception de la politique comme un art : « Du seul point de vue du thème technique, le *Politique* est le premier texte platonicien, mais aussi le premier texte philosophique qui consacre pleinement la politique comme un art [...] » (J. -F. Pradeau, *Platon et la cité*. Paris, PUF, 1997, p. 63).

¹⁷ Cf. J. -F. Pradeau, « Remarque sur la contribution platonicienne à l'élaboration d'un savoir politique positif : πολιτική ἐπιστήμη ». *Archives de Philosophie*, vol. 68, no. 2 (2005), p. 245-246.

forgeron, cordonnier, grossiste, armateur, riche et pauvre, noble et roturier». ¹⁸ Le discours socratique dans le *Protagoras* manifeste donc un principe fondamental du fonctionnement de la πολιτεία démocratique à Athènes, à savoir son égalitarisme politique radical, avec son résolu rejet de la notion d'une expertise appliquée aux affaires de la cité ¹⁹, égalitarisme contre lequel le *Politique* s'insurge dès ses premiers mouvements, à travers la détermination de l'homme politique comme ἐπιστήμων et, partant, à travers la tentative de comprendre les enjeux de l'exercice du pouvoir dont l'homme politique dispose à partir d'une exigence de caractère épistémologique.

Par rapport à l'identification de l'homme politique avec le roi, il s'agit d'une autre provocation qui, selon Castoriadis, était destinée à scandaliser la mentalité politique de l'époque, soit à Athènes, soit ailleurs, étant donné que, quand Platon écrit son ouvrage, le roi était déjà devenu une figure largement obsolète, non seulement dans la cité d'Athènes, mais dans une grande partie du monde grec. Selon l'explication de Castoriadis, la position platonicienne en faveur de la monarchie est donc

[...] inouïe, monstrueuse, pour des Grecs, surtout, et des Athéniens en particulier. À l'époque où écrit Platon, il n'y a pas de roi en Grèce. À Sparte, il y a bien deux rois mais ils n'ont aucun pouvoir, le vrai pouvoir y est partagé entre les éphores et la *gerousia*. Par ailleurs, s'il y a des tyrans en Sicile, sauf erreur de ma part ils ne se font pas appeler roi. Denys, par exemple. Ou, s'ils le font, les autres Grecs le regardent comme des parvenus. Certes, il y a des rois en Macédoine, mais la Macédoine a un statut très bizarre : Démosthène, quelques années après *Le Politique*, quand il essaye de mobiliser les Athéniens pour combattre Philippe, les exhorte à ne pas « se laisser subjugué par des barbares ». Les Macédoniens parlent donc un idiome grec, mais ils n'appartiennent pas vraiment à ce que les cités considèrent comme le monde grec – entre autres, justement, parce qu'ils ont des rois et la Macédoine, ce n'est pas des cités. Enfin, quand on parle en Grèce, aux Ve. et au IVe. Siècles, du « roi », c'est un substantif qui désigne un personnage bien précis, et un seul : « le Grand Roi », le roi des Perses – et c'est l'incarnation du despotisme. Et pourtant Platon, tout à fait froidement, identifie homme politique et homme royal, ce qui pour la Grèce des Ve. et IVe. Siècles, et en tout cas à Athènes, est à peu près une monstruosité. ²⁰

¹⁸ *Protagoras*, 317e-319d.

¹⁹ Cf. F. Ildefonse, *Platon. Protagoras*. Présentation et traduction inédite. Paris, Flammarion, 1997. p. 20, où il est remarqué que le discours socratique élaboré comme une objection contre les prétentions protagoriques à enseigner la vertu « constitue un témoignage capital sur la pratique athénienne de la démocratie directe, qui implique une certaine conception de l'isonomie – tous les citoyens sont égaux par rapport à la loi, et tous participent d'une manière égale à l'exercice du pouvoir – et de l'iségorie – chaque citoyen jouit d'un droit égal à exprimer son opinion sur toutes choses ». Sur l'égalitarisme en tant que caractéristique de la politique démocratique d'Athènes, voir les remarques de M. Schofield, *Plato. Political Philosophy*. Oxford, Oxford University Press, 2006, p. 108-109, et de J. de Romilly, *Pourquoi la Grèce?* Paris, Éditions de Fallois, 2012, p. 112-113.

²⁰ C. Castoriadis, *Sur le Politique de Platon*. Paris, Éditions du Seuil, 1999, p. 57.

Les paroles de Castoriadis nous aident à comprendre le caractère profondément provocateur – compte tenu des conditions politiques du temps – de la procédure platonicienne d'identification de l'homme politique avec le monarque, du πολιτικός ἀνὴρ avec le βασιλεύς, nous montrant, d'une certaine manière, comment derrière cette procédure il y a une tentative de remettre en cause ce qui était politiquement établi dans les cités grecques des V^e et IV^e siècles. Castoriadis se trompe cependant en considérant que l'identification platonicienne de l'homme politique avec le roi est une formulation arbitraire et dépourvue de justification philosophique, quelque chose que Platon aurait avancé dans son texte comme une sorte d'évidence.²¹ Contrairement à ce que dit Castoriadis, on peut affirmer qu'une telle identification est philosophiquement justifiée dans le *Politique* au moyen de deux conceptions autour desquelles le dialogue articule une bonne partie de ses réflexions et de ses enseignements, à savoir : premièrement, l'idée que l'activité politique a une dimension cognitive et dépend nécessairement, comme nous l'avons vu, de la possession d'un savoir pour son exercice légitime; deuxièmement, la thèse selon laquelle cette connaissance, dont dépend l'activité politique, n'est pas accessible à tous, mais constitue au mieux une prérogative de quelques-uns, représentant même à la limite l'apanage d'un seul homme.²²

En tenant compte d'une telle défense de la royauté proposée par le *Politique*, on peut dire que l'une des prétentions platoniciennes fondamentales dans cet ouvrage est de faire un effort pour véhiculer une alternative traditionnelle aux tendances politiques modernes manifestées et réalisées par les πόλεις de l'époque – une alternative traditionnelle qui trouve son expression privilégiée précisément dans la figure du roi ou du βασιλεύς. Pourtant – et c'est là un point fondamental pour comprendre l'enseignement du *Politique* – Platon pensera, dans ce dialogue, une telle alternative traditionnelle dans une clé qui n'est plus tout à fait traditionnelle, puisque le roi ne sera plus conçu par lui comme un être doté d'une nature numineuse ou divine, mais comme un souverain humain, dont l'autorité dépend essentiellement, comme nous l'avons vu plus haut, de la possession

²¹ C. Castoriadis, *Sur le Politique de Platon*, op. cit., p. 56-57.

²² C'est ce qu'expliquent L. Brisson et J. -F. Pradeau, *Platon. Le Politique*, op. cit., p. 32-33, dans les termes suivants: « L'adoption de la royauté, avant même que d'être un choix politique ou constitutionnel, témoigne en quelque sorte d'un constat de fait : selon Platon, l'acquisition du savoir et de la maîtrise de soi qu'exige l'exercice du pouvoir ne peut être le lot commun ». Voir aussi E. Barker, *The Political Thought of Plato and Aristotle*. Mineola/New York, Dover Publications, 2009 [1959], p. 166-167.

d'une connaissance de caractère strictement technique et rationnel.²³ Comme nous le pourrons observer plus tard, cette conception hétérodoxe du roi en tant que souverain purement humain, qui doit se légitimer par la τέχνη qu'il possède, apparaît clairement comme la principale leçon résultant du mythe des cycles cosmiques élaboré par Platon dans le dialogue. Mais avant d'examiner ce mythe, revenons brièvement aux arguments initiaux du dialogue qui le précèdent et le préparent.

Comme déjà indiqué ci-dessus, le point de départ adopté par l'Étranger d'Elée pour mener à bien son travail de définition du politique est la détermination selon laquelle ce dernier est un ἐπιστήμων, c'est-à-dire quelqu'un que dispose d'un savoir, d'une ἐπιστήμη. Or, à partir de cela, ce que l'énigmatique éléate cherchera à faire à la suite de son débat avec Socrate le Jeune, c'est déterminer de manière conceptuellement plus satisfaisante la nature de ce savoir ou ἐπιστήμη qui caractérise l'homme politique. Pour ce faire, il utilisera la même méthode dialectique déjà adoptée initialement dans les discussions du *Sophiste*, à savoir la méthode de la διαίρεσις ou de la division par espèces (εἶδη), qui cherche à définir la nature d'un objet quelconque en effectuant une série de dichotomies qui permettront d'identifier sa note eidétique propre dans une unité générique supérieure (γένος). Appliquant cette méthode au problème de la définition du savoir politique, l'Étranger va donc élaborer, dans les premières sections du *Politique*, comme le remarque Diès, une véritable « classification de techniques ou de sciences ».²⁴ Nous ne nous arrêterons pas ici, bien sûr, sur l'explication détaillée de cette classification. Pour les besoins de cet exposé, il suffit de comprendre que grâce à ce procédé, l'Étranger expliquera tout d'abord que la science possédée par l'homme politique est une science fondamentalement cognitive (γνωστική) et non pratique (πρακτική), puisque ce qui caractérise cette science n'est pas l'exécution d'opérations manuelles (χειρουργία) ou de nature productive, mais bien plutôt l'accomplissement d'une activité intellectuelle qui vise à parvenir à une cognition (γνώσις).²⁵ En plus, cette science cognitive qui appartient

²³Voir les remarques de M. Vegetti, « Royauté et philosophie chez Platon », dans *Lire Platon*. Sous la direction de L. Brisson et F. Fronterotta. Paris, PUF, 2006, p. 211-212.

²⁴ A. Diès, *Platon. Le Politique*, op. cit., p. IX.

²⁵ *Politique*, 258d- 260a. Il est évident que Platon, dans ce moment du dialogue, identifie tacitement l'action (πράξις) à la production (ποίησις) et pense celle-ci préférentiellement selon le modèle des arts manuels (χειροτεχνική, χειρουργία), ce qui, comme l'on sait, sera rejeté plus tard par Aristote, qui fondera une partie essentielle de sa philosophie pratique sur la distinction entre action et production. Voir, par exemple, *Éthique à Nicomaque* VI, 1140 a1-23, et *Politique* I, 1254a1-7.

au vrai politique prétend non seulement porter un jugement (κρινεῖν) sur les choses connues, mais aussi donner des ordres ou des commandes (ἐπιτάττειν) à leur sujet, et cela d'une manière autonome, en vertu de sa propre autorité, et non pas de manière subordonnée, c'est-à-dire à partir de commandes qui proviennent d'une autorité supérieure. Cela veut dire que la science royale ou politique est donc une science essentiellement autodirective (αὐτεπιτακτική).²⁶ Faisant avancer cette analyse, l'Étranger expliquera ensuite que ce pouvoir autodirectif qui caractérise la πολιτική ἐπιστήμη donne des ordres concernant des êtres qui ne sont pas inanimés, mais animés, qui ne vivent pas isolés, mais en groupes et qui ne sont pas de quadrupèdes, mais de bipèdes. Avec cela, le protagoniste du dialogue et son jeune interlocuteur arrivent enfin à la définition initiale de la science politique comme « l'art de paître des hommes » (ἀνθρωπονομική).²⁷ Le politique est donc, dans le contexte de cet argument, un pasteur (νομεύς), dont la tâche principale consiste à fournir tout ce que concerne la nutrition/création (τροφή) du troupeau humain.

Comme beaucoup de chercheurs l'ont vu, malgré sa technicité, la première définition du roi ou de l'homme politique comme « pasteur d'hommes » proposée par l'Étranger d'Élée, avec son recours à l'image du pastorat, n'avance pas à proprement parler, par rapport à la tradition, aucune compréhension philosophique véritablement nouvelle de la nature de l'art royal ou politique. En effet, selon Brock, l'image du roi-berger est une image très ancienne, dont l'origine remonte aux cultures millénaires de l'Est et du Proche-Orient, et l'on peut la trouver, par exemple, dans certaines parties du code d'Hammourabi et de l'Ancien Testament.²⁸ Dans le monde grec, en particulier, la métaphore du roi comme « pasteur des peuples » (ποιμὴν λαῶν) est déjà bien attestée dans les poèmes homériques, qui l'utilisent à plusieurs reprises pour faire référence à l'autorité de certains héros ou souverains.²⁹ À cet égard, il est intéressant de remarquer, d'une

²⁶ *Politique*, 260 a-261a.

²⁷ *Politique*, 261a-267c.

²⁸ R. Brock, *Greek Political Imagery*, op. cit., p. 43. Brock cite Ez, 34. 2-4 ; 37.24, et Jr, 23. 1-4, comme des exemples d'occurrence de l'image du pastorat dans l'Ancien Testament.

²⁹ Voir B. Graziosi ; J. Haubold, *Homer: The Resonance of Epic*. London/New York, Bloomsbury Academic, 2005, p. 108, qui affirment : « in the Homeric poems, leaders are repeatedly called 'shepherds of the people' and, in that role, they certainly have very precise duties towards their 'flock'. » Sur l'image du roi comme « pasteur des peuples », on se reportera aussi à R. Brock, *Greek Political Imagery*, op. cit., p. 43-44, et à S. Bernardete, « The Plan of the *Statesman* », art. cit., p. 39-40.

manière plus précise, que, selon la statistique élaborée par Benveniste, l'expression apparaît 44 fois dans l'*Illiade* et 12 fois dans l'*Odyssée*.³⁰ Toujours aux confins du monde grec, cette même image réapparaît également dans quelques textes politiques liés au pythagorisme³¹ et, dans un contexte déjà classique, chez Xénophon, qui s'en sert soit dans la *Cyropédie*, pour présenter un des enseignements du grand despote Cyrus³², soit dans les *Mémorables*, l'indiquant comme l'un des composants de la conception socratique de l'art du gouvernement.³³ Tout cela nous permet de dire, à la suite de Castoriadis, qu'avec cette conception de l'exercice du gouvernement comme un type de pastorat nous sommes en fait confrontés à une conception traditionnelle de la politique, qui, appartenant à un certain «stock folklorique grec», reposait donc sur une certaine «représentation populaire» du pouvoir en Grèce ancienne.³⁴

Dans le *Politique*, l'Étranger essaiera de soumettre cette conception à une problématisation explicite : d'abord, montrant qu'elle n'est pas en mesure d'isoler le politique des autres acteurs qui lui font concurrence dans la cité en ce qui concerne la tâche d'effectuer la création du troupeau humain (médecins, commerçants, artisans, etc.) et qui pourraient donc également revendiquer le titre de pasteur (le politique n'est pas semblable, explique l'Étranger à Socrate le Jeune, au bouvier, qui effectue toutes les procédures et les soins nécessaires pour la création de son bétail)³⁵; ensuite, montrant que

³⁰ Cf. E. Benveniste, *Le Vocabulaire des institutions indo-européennes*. Tome 2: pouvoir, droit, religion. Paris, Les Éditions de Minuit 1974, p. 90-91. Pour quelques exemples d'utilisation de l'expression « pasteur des peuple s » dans les poèmes homériques, voir *Illiade*, II, 243; V, 144; X, 3; *Odyssée*, III, 156.

³¹ Voir A. Petit, « Le pastorat ou l'impossible raccourci théologico-politique », dans *Figures du théologico-politique*, op. cit., p. 9-23.

³² Cf. Xénophon, *Cyropédie*, VIII, 2, 14. Voir aussi I, 1, 2

³³ *Mémorables*, I, 2, 32; III, 2, 1

³⁴ C. Castoriadis, *Sur le Politique de Platon*, op. cit., p. 61-62. Nous sommes ici en désaccord avec la position de Foucault, pour qui la métaphore du pastorat, bien qu'elle soit retrouvée dans certains documents littéraires grecs, est toujours restée un élément étrange à l'authentique *modus mentis* des grecs, dans la mesure où elle pressuppose un mode de représentation du pouvoir qui, en impliquant la croyance en l'existence d'un gouvernement des hommes, constitue une façon de penser typiquement orientale. Cf. M. Foucault, *Sécurité, territoire, population*. Cours au Collège de France (1977-1978). Édition établie sous la direction de François Ewald et Alessandro Fontana, par Michel Senellart. Paris, Gallimard/ Seuil, 2004, p. 127-165. À notre avis, Foucault sous-évalue l'évidence constituée par les multiples documents littéraires grecs qui, depuis l'époque homérique, attestent de façon convaincante que l'image du pastorat, malgré son origine orientale, avait atteint une certaine diffusion dans la culture hellénique, étant devenue, à cause de cela, un des modes traditionnels de représenter l'exercice du pouvoir politique en Grèce.

³⁵ *Politique*, 267c-268c.

la représentation du pastoral ne convient pas aux gouvernants humains, précisément parce qu'elle présuppose l'existence d'une différence de nature radicale entre le pasteur et son troupeau qui ne correspond pas du tout à la relation entre le roi et ses sujets. Or, c'est précisément pour rendre ce dernier point explicite que l'Étranger introduit dans le dialogue le mythe des cycles cosmiques à partir de 268d4.

Le Mythe de Kronos, le Retrait des Pasteurs Divins et la Genèse de la Vie Politique

Évidemment, je ne peux pas explorer ici de manière plus approfondie tous les détails présents dans ce mythe. Pour le développement de la présente analyse, je voudrais plutôt attirer sur-le-champ l'attention des lecteurs sur les données suivantes : le récit mythique s'organise à travers la description de deux époques distinctes de l'histoire de l'univers (τὸ πᾶν), à savoir l'âge de Kronos et l'âge de Zeus, qui correspondent à deux formes distinctes de rotation cosmique : l'une, dirigée par la divinité elle-même; l'autre, dans laquelle l'univers, abandonné par le dieu, se meut de lui-même (αὐτόματον) en sens inverse (εἰς τὰναντία περιάγεται), puisqu'il est vivant (ζῶον) et doté d'intelligence (φρόνησις).³⁶ Selon ce que dit l'Étranger, en effet, à une étape primordiale de l'histoire de l'univers, c'est-à-dire à l'âge de Kronos, le mouvement global du monde, conçu comme une immense sphère tournant autour de son propre axe, était directement surveillé par le dieu même (ἦρχεν ἐπιμελούμενος ὅλης ὁ θεός), tandis que les divinités locales ou δαίμονες étaient chargées de la surveillance des êtres vivants (y compris les hommes eux-mêmes), qui, organisés en troupes, étaient docilement soumis à la tutelle divine. Tout au long de cette période, le cours des choses suivit une marche dans une direction opposée à celle qu'on voit dans le cycle actuel. Ainsi, les hommes et les autres animaux poussaient directement de la terre, comme autochtones (γηγενεῖς), déjà grandis et sans besoin de reproduction sexuelle, subissant toutes les vicissitudes liées aux changements biologiques à l'inverse de ce que nous connaissons maintenant. À ce moment-là, poursuit le mystérieux Éléate, les êtres humains et les bêtes vivaient dans une condition paradisiaque de parfaite harmonie, puisque les dieux, prenant soin de leurs troupeaux, promouvaient

³⁶ *Politique*, 269 c-d. Voir aussi 272 d-e. Sur les deux cycles opposés du mouvement du cosmos, voir les explications de P. Vidal-Naquet, « Plato's Myth of the Statesman. The ambiguities of the golden age and of history ». *The Journal of Hellenic Studies*, 1978, vol. 98, p. 137. À propos de ce sujet, on se reportera également à J.-F. Mattéi, *Platon et le miroir du mythe. De l'âge d'or à l'Atlantique*. Paris, Quadrige/PUF, 2002 p. 73-75.

un état irénique et sans violence entre eux, « si bien qu'il n'y avait pas d'espèce sauvage et qu'une espèce n'en mangeait pas une autre » (ὥστε οὔτ' ἄγριον ἦν οὐδὲν οὔτε ἀλλήλων ἐδωδαί). Pour cette raison même, il n'y avait « ni guerre ni dissension d'aucune sorte » (πόλεμος τε οὐκ ἐνῆν οὐδὲ στάσις τὸ παράπαν). En ce qui concerne les hommes en particulier, l'Étranger remarque que, profitant des bienfaits de ce pastorat divin, ils ne connaissaient ni organisation politique (πολιτεῖαί τε οὐκ ἦσαν) ni famille (οὐδὲ κτήσεις γυναικῶν καὶ παίδων), ce qui veut dire donc qu'ils ne connaissaient pas de propriété privée. En outre, ils ignoraient la pénurie, étaient végétariens (puisque, comme on l'a vu, il n'y avait pas de violence entre eux et les autres animaux) et n'avaient pas besoin de travailler, car toutes choses naissaient spontanément pour eux (πάντα αὐτόματα γίνεσθαι τοῖς ἀνθρώποις), de telle sorte qu'ils avaient d'abondants fruits des arbres et de toute autre végétation (καρποὺς δὲ ἀφθόνους εἶχον ἀπὸ τε δένδρων καὶ πολλῆς ὕλης ἄλλης), sans qu'il fût nécessaire de les cultiver, la terre les produisant de soi-même (οὐχ ὑπὸ γεωργίας φουμένους, ἀλλ' αὐτομάτης ἀναδιδούσης τῆς γῆς). Pour finir ce tableau paradisiaque, l'Éléate remarque enfin que les hommes de cette époque-là, grâce au climat doux et aux saisons bien tempérées, vivaient tous nus, à l'air libre, dormant sur l'herbe qui, engendrée à profusion par la terre, leur servait de couche.³⁷

Telle était alors la vie pendant le fabuleux règne de Kronos (ὁ βίος ἐπὶ Κρόνου), que l'Étranger décrit en des termes fort idylliques, reprenant un matériau mythologique déjà présent dans *Les Travaux et les Jours* d'Hésiode.³⁸ Comme l'explique Castoriadis (1999, p. 118), « encore une fois cet âge de Cronos est un âge d'or, c'est le mythe du communisme primitif, mais aussi d'une période d'abondance ». Toutefois, avançant dans l'énonciation de son récit, l'Étranger affirme que cet état de choses ne pourrait pas durer perpétuellement, de sorte que, lorsque est venu le temps déterminé à toutes choses, un changement a dû se produire (μεταβολὴν ἔδει γίνεσθαι), conduisant à la destruction la race née de la terre.³⁹ Ce changement, selon le récit, s'explique par le retrait du dieu qui, abandonnant le contrôle du mouvement du cosmos, s'est réfugié comme un pilote dans sa tour d'observation (ὁ μὲν κυβερνήτης [...] εἰς τὴν περιωπὴν αὐτοῦ ἀπέστη), étant accompagné par les δαίμονες ou les divinités locales qui se sont retirées des régions du

³⁷ *Politique*, 271d-272b. Sur le végétarisme qui aurait été en vigueur à l'âge de Kronos, cf. L. Brisson ; J. -F. Pradeau, *Platon. Le Politique*, op. cit., p. 231, note 128.

³⁸ Cf. *Les Travaux et les Jours*, v. 109 ss.

³⁹ *Politique*, 272 d-e.

monde qui leur ont été jadis confiées.⁴⁰ Or, en vertu de cet éloignement de la divinité, l'univers dans son ensemble subit un changement soudain de sa marche et, poussé par son destin (εἰμαρμένη) et son appétit inné (σύμφυτος ἐπιθυμία), il commence à se déplacer dans un sens rétrograde et se plonge dans une situation de désordre progressif, duquel il parvient à s'échapper seulement à grand-peine, grâce à sa capacité de remettre en mémoire (ἀπομνημονεύω), « dans la mesure qu'il pouvait (εἰς δύναμιν), l'enseignement (διδασχὴν) qu'il avait reçu de celui qui était son démiurge (δημιουργοῦ) et son père (πατρός) ».⁴¹ Bien sûr, la capacité de rappeler les leçons du démiurge mentionnée par l'Étranger présuppose qu'il existe une certaine intelligence dans le cosmos ; néanmoins, la séquence du récit nous montre clairement que la rationalité existant dans l'univers n'est pas en mesure de contrôler complètement les mouvements irrationnels qui y apparaissent, ce qui, à la limite, finit par imposer une nouvelle intervention du dieu, afin d'empêcher que le monde s'abîme « dans l'océan indéterminé de la dissimilitude » (διαλυθεὶς εἰς τὸν τῆς ἀνομοιότητος ἄπειρον ὄντα πόντον).⁴² Quoiqu'il en soit, l'énigmatique Éléate nous raconte que la μεταβολή qui modifie le cours du mouvement de l'univers provoque, à l'origine, « une énorme secousse » (σεισμὸς πολὺς) et des cataclysmes, ainsi qu'une altération radicale du cycle des choses, dont l'effet le plus saisissant et le plus extraordinaire est le suivant : les êtres vivants, qui auparavant surgissaient spontanément de la terre, passent désormais à naître par le moyen de la reproduction sexuée, suivant dans leur développement le cours biologique connu de nos jours, qui va de l'enfance à la vieillesse.⁴³ Voici comment, dans le texte, le protagoniste du dialogue explique cet extraordinaire changement cosmique:

[...] quand le monde se remit à tourner dans le sens qui conduit au mode de génération actuel, alors de nouveau le cours des âges s'arrêta et tout repartit à l'envers pour les gens d'alors. En effet, ceux des vivants qui en raison de leur extrême petitesse allaient disparaître se mirent à grandir, alors que les corps qui venaient de naître de la terre avec des cheveux blancs connaissaient de nouveau la mort et rentraient dans la terre. Et tout le reste changeait, imitant et suivant la condition de l'univers (καὶ τὰλλα τε πάντα μετέβαλλε ἀπομιμούμενα καὶ συνακολοθοῦντα τῷ τοῦ παντὸς παθήματι); en particulier, engendrer, naître et mourir, tout offrait nécessairement une imitation du cours de toutes choses (καὶ δὴ καὶ τὸ τῆς κινήσεως καὶ γεννήσεως καὶ τροφῆς μίμημα συνέειπετο τοῖς πᾶσι ὑπ'ἀνάγκης). Car il n'était plus possible que le vivant naisse dans la terre sous l'action conjointe d'autres êtres, mais tout comme il était prescrit au monde d'être le maître de sa propre marche (ἀλλὰ καθάπερ τῷ κόσμῳ προσετέτακτο αὐτοκράτορι εἶναι τῆς αὐτοῦ πορείας), il fut

⁴⁰ *Politique*, 272 e.

⁴¹ *Politique*, 273 a-b.

⁴² *Politique*, 273 c-e.

⁴³ *Politique*, 273 e- 274b.

aussi prescrit à ses parties, dans la mesure où la chose leur serait possible, d'engendrer par elles-mêmes, de faire naître et de nourrir au moyen d'une semblable conduite.⁴⁴

Avec ces transformations, nous entrons donc dans un nouvel âge de l'histoire du cosmos, l'âge de Zeus, où nous vivons actuellement. En ce qui concerne les hommes, en particulier, l'Éléate nous montre que leur condition devient très périlleuse dans cette nouvelle période cosmique, puisque, privés désormais des bienfaits prodigués par le pastoral divin, ils sont obligés, comme l'univers qui les entoure, de prendre soin d'eux-mêmes et de se conduire tout seuls, confrontés à une nature hostile et toujours menacée par le désordre, qui ne leur offre plus spontanément ses fruits. Un signe de ceci c'est le fait que les bêtes (qui, comme on l'a vu, à l'époque de Cronos vivaient en paix) deviennent maintenant, avec la retraite des dieux, sauvages et farouches, faisant des humains, dorénavant faibles et sans protection (ἀσθηνεῖς καὶ ἀφύλακτοι), une proie facile.⁴⁵ Comme l'explique l'Étranger, au commencement les hommes ont dû faire face à cet état désolé de choses dépourvus de toute industrie ou connaissance technique (ἀμήχανοι καὶ ἄτεχνοι κατὰ τοὺς πρώτους ἦσαν χρόνους), ce qui rendait leur situation encore plus périlleuse, les plongeant alors « dans de grandes difficultés » (ἐν μεγάλαις ἀπορίαις ἦσαν).⁴⁶ Le protagoniste du dialogue ajoute, néanmoins, que c'est précisément pour remédier en partie à ces difficultés que les dieux, selon ce que nous disent d'antiques traditions (τὰ πάλαι λεχθέντα), nous ont accordés des dons (δῶρα), accompagnés de « l'enseignement et de l'apprentissage indispensables » (μετ'ἀναγκαίας διδαχῆς καὶ παιδεύσεως) : le feu, donné par Prométhée; les techniques (τέχναι), transmises par Héphestos et Athéna ; les graines et les plantes (σπέρματα καὶ φυτά), enfin, par les autres dieux. Grâce à ces donations, les hommes ont pu alors sortir progressivement de leur condition primitive de détresse et d'aporie, se trouvant ainsi mieux placés pour imiter l'univers et, à la ressemblance de celui-ci, chercher à se conduire de manière autonome.⁴⁷ Comme dit l'Étranger dans le dialogue :

Tout ce sur quoi la vie humaine put compter en matière d'équipement résulta de ces techniques, lorsque les hommes furent privés de la providence qu'assuraient les dieux, comme je viens de le dire (καὶ πάνθ' ὅποσα τὸν ἀνθρώπινον βίον συγκατεσκεύακεν ἐκ τούτων γέγονεν, ἐπειδὴ τὸ μὲν ἐκ θεῶν, ὅπερ ἐρρήθη νυνδὴ, τῆς ἐπιμελείας ἐπέλιπεν ἀνθρώπους). C'est pour cette raison que

⁴⁴ *Politique*, 273e-274a. Traduction de Brisson et Pradeau.

⁴⁵ *Politique*, 274b-c.

⁴⁶ *Politique*, 274 c.

⁴⁷ *Politique*, 274 c- d.

les hommes durent apprendre à se conduire par eux-mêmes et à prendre soin d'eux-mêmes, tout comme le monde en son entier (δι'ἑαυτῶν τε ἔδει τὴν τε διαγωγὴν καὶ τὴν ἐπιμέλειαν αὐτοῦς αὐτῶν ἔχει καθάπερ ὅλος ὁ κόσμος). C'est en imitant ce monde et en le suivant pour toujours que maintenant nous vivons et croissons de cette façon, alors que jadis nous vivions d'une autre façon.⁴⁸

La leçon explicitement tirée par l'Éléate de son complexe récit consiste dans la compréhension de l'inadéquation de la catégorie du pastoralat pour expliquer la nature de la science requise de la part de l'homme royal dans l'exercice de son gouvernement. Selon lui, en effet, le mythe nous apprend qu'en concevant les rois comme des bergers nous commettons en quelque sorte une μετάβασις εἰς ἄλλο γένος, c'est-à-dire une confusion des genres, identifiant indûment les dirigeants de notre époque avec les divinités qui nous surveillaient à l'époque de Kronos. Le point fondamental sur lequel l'Étranger veut attirer notre attention est que l'idée du pastoralat implique nécessairement l'existence d'une différence de nature radicale entre le berger et son troupeau, car le berger est par définition un être supérieur au troupeau dont il est responsable. Cette situation a été pleinement réalisée à l'âge de Kronos, comme le montre le mythe, lorsque les divinités, qui sont des êtres bien supérieurs à nous, assumaient la responsabilité du soin (ἐπιμέλεια) du troupeau humain. Mais la même chose ne se produit pas au moment présent, à l'âge de Zeus, lorsque les dieux abandonnèrent les régions du cosmos qui leur étaient soumises, nous laissant sous la garde de gouvernants qui, précisément parce qu'ils sont des hommes, ressemblent beaucoup à leurs sujets ou à leurs subordonnés. Il en découle, selon l'Éléate, qu'en concevant les rois d'aujourd'hui comme des bergers nous sapons ainsi la différence entre l'humain et le divin, en approchant à tort le politique du dieu.⁴⁹

Or, ce qu'il est intéressant de remarquer par rapport à cette formulation, c'est que grâce à elle Platon nous montre la politique, dans le contexte du *Politique*, comme une activité fondamentalement humaine, qui doit être menée dans les conditions aporétiques du monde actuel sans le concours direct d'un dieu ou d'un pouvoir divin. En effet, le dialogue nous dit explicitement qu'à l'époque idyllique de Kronos il n'y avait pas d'organisation politique (πολιτεία), et cela, nous pouvons maintenant penser, parce que les hommes de ce temps-là n'avaient pas besoin d'agir, puisque l'ἐπιμέλεια pastorale

⁴⁸ *Politique*, 274d. Traduction de Brisson et Pradeau.

⁴⁹ *Politique*, 274e-275c. Selon P. Vidal-Naquet, « Plato's Myth of the Statesman », art. cit., p. 136, le mythe du *Politique*, conduisant au refus de l'assimilation de la figure du roi à la figure du dieu, nous met en garde contre « l'angélisme » : « The myth, which occupied here the 'role of criterion', contains a warning against 'angelism', which could lead us to confuse divine with human statesman, the Golden Age with the cycle of Zeus[...] ».

exercée sur eux par des dieux bienveillants les libérait de tous les soins, les cumulant avec de nombreux bienfaits et le don d'une vie paradisiaque.⁵⁰ Ce n'est qu'avec l'écart des dieux et la disparition de leur ἐπιμέλεια pastorale que naissent les conditions du déclenchement de la vie politique, car c'est seulement à partir de telles circonstances que les hommes sont obligés d'agir d'une manière autonome et de s'organiser et de se conduire par eux-mêmes dans un monde hostile et marqué par la détresse.⁵¹ En d'autres termes, la genèse de la politique en tant que tâche humaine est nécessairement liée à la réalisation d'une certaine émancipation de l'homme par rapport au divin.⁵² Ici, il faut reconnaître que l'analyse de Foucault saisit très bien ce qui est en jeu dans cette partie du mythe platonicien, en montrant que, dans ce mythe, la politique en tant que mode d'organisation des hommes par eux-mêmes ne devient possible qu'avec l'éloignement cosmique des dieux-bergers.

La politique va commencer quand le monde tourne à l'envers. Quand le monde tourne à l'envers, en effet, la divinité se retire, la difficulté des temps commence. Les dieux, bien sûr, n'abandonnent pas totalement les hommes, mais ils ne les aident que d'une manière indirecte, en leur donnant le feu, les arts, etc. Ils ne sont plus véritablement les bergers omniprésents, immédiatement présents

⁵⁰ Sur le caractère pré-politique de l'âge de Kronos, voir S. Rosen, *Plato's Statesman*, op. cit., p.55. P. Vidal-Naquet, « Plato's Myth of the Statesman », art. cit., p. 139, attire l'attention sur ce point, soulignant l'absence de πόλις à l'âge de Kronos : « in the Statesman, the Golden Age is radically severed from the city ».

⁵¹ C'est ce que remarque H. Joly, *Le Renversement platonicien*, op. cit., p. 290: « Platon [...] oppose les temps anciens où les hommes n'ont point à faire ce que les dieux font pour eux et les temps modernes où les hommes doivent faire par eux mêmes ce que désormais les dieux ne font plus [...] ». On retrouve le même avis dans S. Rosen, *Plato's Statesman*, op. cit., p. 63, qui affirme: « Political existence arises from the harshness and neediness of our (normal) origins. The actual significance of the origins is that the gods do not care for us ».

⁵² Cf. C. Castoriadis, *Sur le Politique de Platon*, op. cit., p. 121, et J. -F. Pradeau, *Platon et la cité*, op. cit., p. 63. Voir aussi S. Rosen, *Plato's Statesman*, op. cit., p. 60. Il est à noter que la position platonicienne sur ce sujet se situe à l'extrême opposé de la position pythagoricienne. Pour s'en rendre compte, voir les remarques de A. Petit, « Le pastorat ou l'impossible raccourci théologico-politique », dans *Figures du théologico-politique*, op. cit., p. 11, qui explique très bien comment la théologie politique proposée par le pythagorisme refuse l'émancipation de l'humain par rapport au divin : « Le point décisif peut, malgré tout, être assigné avec quelque vraisemblance : c'est le refus pythagoricien d'une émancipation de l'arché politique à l'égard du gouvernement divin du monde. En réalité, la théologie politique du pythagorisme ancien est une cosmopolitique, la surveillance que le dieu suprême (Zeus cosmique) exerce sur le monde devant s'exercer aussi sur les cités (Jambl. V. P., §174). Il n'y a pas, si l'on croit Aristoxène, de limite à l'empire du dieu, le politique ne saurait être un règne sui generis. Le pythagorisme ancien accuse ainsi fortement la nécessaire suréminence (*hyperbolé*) de l'autorité, qui ne saurait être du même ordre que ceux sur qui elle s'exerce ; il met également en pleine lumière le caractère pastoral de l'arché, qui requiert une vigilance de tous les instants et une sollicitude à l'égard de chacun. L'autogouvernement des hommes est tenu pour inconcevable, énoncé théologico-politique promis à une grande pérennité, et prépare la constitution d'une théologie politique de la royauté à l'ère hellénistique ».

qu'ils étaient dans la première phase de l'humanité. Les dieux se sont retirés et les hommes sont obligés de se diriger les uns les autres, c'est-à-dire qu'ils ont besoin de politique et d'hommes politiques.⁵³

Ce n'est pas tout. Le mythe nous montre aussi que c'est ce même écart des dieux qui rend nécessaire le développement des arts et des techniques, dont l'usage apparaît ainsi comme l'expression symbolique de l'indépendance de l'homme dans un monde où l'ἐπιμέλεια divine est disparue.⁵⁴ Comme l'a très bien remarqué Joly, on voit que sur ce point le mythe du *Politique* reprend en quelque sorte le mythe protagonique de Prométhée raconté dans le *Protagoras*, réitérant la conception anthropologique technicisante proposée par ce mythe, selon laquelle c'est à travers les arts et le savoir technique que les hommes ont réussi à vaincre la brutalité de l'état primitif et à donner naissance à une vie politique et civilisée. Cela signifie que les deux dialogues véhiculent une anthropologie de caractère essentiellement technique, qui conçoit l'avènement de l'humanité de l'homme comme un phénomène indissolublement lié à l'irruption de la τέχνη.⁵⁵

Si l'on prend en compte cette conception, on s'aperçoit facilement que le mythe du *Politique* nous fournit ainsi, entre ses lignes, une vision profondément ambiguë des bienfaits de l'âge d'or primitif, ce qui finit par engendrer une relativisation de la représentation de la signification morale de cette période, dévoilant au bout du compte la nature sous-humaine des hommes qui y vivaient. En effet, dans la mesure que les hommes de l'âge de Kronos étaient entièrement soumis à la tutelle divine et se trouvaient confondus, pour ainsi dire, avec les bêtes qui les entouraient, étant en plus dépourvus d'art, d'autonomie et donc de philosophie, comme le suggère le dialogue dans un certain moment,⁵⁶ ils étaient loin de la condition véritablement humaine, vivant, comme l'affirme

⁵³ M. Foucault, *Sécurité, territoire, population*, op. cit., p. 148

⁵⁴ M. Naas, « From spontaneity to automaticity. Polar (opposite) reversal at *Statesman* 269c-274d », dans *Plato's Statesman. Dialectic, Myth, and Politics*, op. cit., p. 27, attire l'attention sur ce point, avec les remarques suivantes : « For once the God has taken his hand off the helm, man's survival is quite literally in his own hands, that is, in the science and industry of his hands, however much these may owe their origin to God or to the gods ».

⁵⁵ Cf. H. Joly, *Le Renversement platonicien*, op. cit., p. 288-289 : « Le parallélisme s'impose en effet entre l'exposition platonicienne du mythe de Prométhée dans le *Politique* et la transcription, platonicienne, de sa version sophistique dans le *Protagoras*. Ici et là se trouvent proposées une description des origines techniques de l'humanité et une conception de la mission technicienne de l'homme. L'anthropologie est en effet moins biologique que technique et politique. Animalité et humanité sont antithétiquement opposées et l'infériorité biologique de départ se trouve compensée par après et changée en supériorité technique ».

⁵⁶ Cf. *Politique*, 272b-d. Dans ce passage, l'Étranger, cherchant à répondre quelle était la vie la plus heureuse – celle du temps de Kronos, ou celle du temps de Zeus, c'est-à-dire celle de nos

Vidal-Naquet, dans un « paradis animal », ce qui signifie, selon les termes de Vidal-Naquet, que « l'humanité, y comprise l'humanité du philosophe, se trouve placée de l'autre côté de la montagne, du côté du cycle de Zeus ».⁵⁷

Pour revenir maintenant au problème du roi, il faut dire que ce sont ces mêmes éléments qui, comme nous l'avons déjà indiqué, provoquent un changement profond dans la compréhension de son statut. En effet, la leçon politique immédiate que l'Étranger tire de son récit mythique est précisément, comme nous l'avons expliqué, que le roi, souverain par excellence, ne peut pas être confondu avec le berger divin, mais doit d'abord être reconnu dans sa pure et simple humanité. La conséquence décisive est le rejet de la représentation archaïque du roi en tant que souverain divin (très commune dans les cultures de l'Est et qui apparaît d'une certaine façon dans le monde grec, comme déjà indiqué, à la fois dans les poèmes homériques et dans le pythagorisme) et la reconnaissance du fait que l'autorité du monarque ne peut plus être légitimée par son prestige sacré, mais uniquement par cet instrument qui, dans le contexte du monde abandonné et autocratique, est la principale ressource des hommes pour faire face à l'aporie engendrée par l'éloignement des dieux : la connaissance technique. Nous avons ici un donné philosophique important dans l'économie du dialogue, qui montre la position ambivalente adoptée par le *Politique* par rapport à la tradition : en effet, le *Politique*, contre l'*ethos* et les tendances politiques démocratisantes du temps, avance une défense audacieuse et même intransigeante du roi et du régime monarchique, forme politique

jours –, affirme que si « les nourrissons de Kronos » (οἱ τρόφιμοι τοῦ Κρόνου) employaient tous les loisirs disponibles pour pratiquer la philosophie, ayant des rapports (συγγίγνεσθαι) au moyen des discours (διὰ λόγων) non seulement avec les hommes, mais avec les bêtes, alors on peut dire que les hommes du temps de Kronos « surpassaient mille fois ceux de maintenant pour ce qui est du bonheur »; néanmoins, si les nourrissons de Kronos ne faisaient que se gorger de nourriture et raconter des fables, on peut penser le contraire. Or, comme l'a bien remarqué S. Rosen, *Plato's Statesman*, op. cit., p. 56, il n'y a rien dans ce que l'Étranger dit à propos de l'âge de Kronos qui nous porte à croire que les hommes qui y vivaient possédaient la capacité du *logos*, c'est-à-dire la capacité du discours et de l'argumentation, ce qui signifie que ces hommes-là ignoraient la possibilité de la philosophie. C'est le même avis exprimé par J. F. Mattéi, *Platon et le miroir du mythe*, op. cit., p. 78, pour qui « les hommes de l'âge d'or n'ont pas besoin de philosopher : la philosophie est l'affaire d'un monde malade et livré à ses seules forces ». Voir aussi P. Vidal-Naquet, « Plato's Myth of the Statesman », art. cit., p. 139, qui dit : « philosophy, science and the city are, implicitly, also situated in the Zeus cycle ».

⁵⁷ P. Vidal-Naquet, « Plato's Myth of the Statesman », art. cit., p. 138. Cela veut dire, selon Vidal-Naquet, que Platon n'a consacré aucun culte nostalgique au passé ou aux temps primitifs, comme c'était le cas chez certains cyniques, qui, dans leur opposition virulente à la vie politique, ont idéalisé ce qui aurait été la vie de l'homme dans les premiers jours. Voir aussi les remarques de S. Rosen, *Plato's Statesman*, op. cit., p. 61.

traditionnelle par excellence ; néanmoins, l'œuvre ne considère plus le personnage royal comme une figure sacrée et dotée d'une origine divine, mais comme un dirigeant humain, « trop humain », qui doit utiliser sa compétence et les ressources de son savoir pour se différencier de ses rivaux et légitimer son autorité dans la cité. C'est pourquoi tout l'effort du dialogue se concentre depuis le début, comme nous l'avons déjà vu, sur la tentative de définir le caractère de cette connaissance royale (βασιλική ἐπιστήμη) qui fonde l'autorité du vrai βασιλεύς, ce qui conduit l'Étranger d'Élée dans l'œuvre à opposer au roi-pasteur de la tradition un idéal plus prosaïque, celui du roi-artisan, qui trouvera, à un stade ultérieur du débat, dans les procédures d'une τέχνη humaine spécifique et apparemment banale – l'art du tissage – un paradigme pour les opérations qu'il doit effectuer à l'intérieur de la *polis*.⁵⁸ Avec cela, le roi peut être enfin défini, à la fin du travail dialectique, comme un tisserand civique et sa science comprise comme la science des liens politiques, dont le but est de produire « le plus excellent de tous les tissus », le tissu unitaire de la cité.⁵⁹

Mais on ne trouve là qu'un aspect de la question, et la position platonicienne dans le *Politique* présente une plus grande complexité, car le philosophe, bien qu'il ne conçoive plus le roi selon une vision purement traditionnelle, c'est-à-dire comme un berger divin, ne proclamera pas, comme nous l'avons expliqué dans l'introduction, une conception totalement laïque de la politique et n'annulera pas la référence à une sorte de principe transcendant, essayant de rendre explicite le fait que l'image d'une certaine souveraineté divine constitue un modèle pour le gouvernement humain. C'est ce que le mythe indique finalement en établissant un lien entre cosmologie et politique et en affirmant que l'histoire humaine suit d'une certaine façon les vicissitudes de l'histoire de l'univers en les imitant. Cela signifie que, de même que dans l'état actuel l'univers « autocratique », c'est-à-dire l'univers laissé à lui-même et menacé par l'impact du désordre résultant du départ du dieu, doit chercher, autant que possible (εἰς δύνανται), à rappeler les enseignements de son divin auteur, grâce à l'intelligence qui l'habite, pour échapper en partie au désordre qui l'afflige, de même les hommes rendus « autocratiques » doivent-ils s'efforcer d'imiter, dans les actes de leur histoire, ce qui

⁵⁸ Selon M. Schofield, *Plato. Political Philosophy*, op. cit., p. 165, on touche ici ce qui constitue le point central de l'enseignement politique du *Politique* : « At the core of the substantive political philosophy of the *Statesman* is a radical revaluation of the traditional notion of kingship (conceived as the paradigm of political rule). The old idea of the king as shepherd of his flock is successively defended, criticized and then abandoned for a new model: the statesman as weaver ».

⁵⁹ Voir *Politique*, 305 e-311c.

aurait été l'exemplarité d'un gouvernement divin, s'inspirant de l'image lointaine du dieu absent.⁶⁰ Au moyen de cette élaboration, la politique est présentée donc comme une tâche humaine, mais cette tâche humaine, dans la perspective platonicienne, ne peut pas se passer d'un référentiel divin. En assumant cette position, le *Politique* nous montre, au bout du compte, toute l'ambiguïté et la complexité du phénomène politique, qui, émergeant précisément dans la région limitrophe et problématique qui sépare le monde fragile et précaire des hommes de ce qui le dépasserait, est marqué par une limitation fondamentale.

Le Caractère Paradigmatique du Meilleur Régime, le Recours à l'Imitation et les Limites de la Vie Politique

Ces derniers éléments qu'on vient d'explicitier apparaîtront de manière décisive dans les arguments ultérieurs que l'Étranger consacrera dans le *Politique* au problème du meilleur régime, arguments qui apportent une contribution théorique décisive en ce qui concerne la constitution du sens philosophique de cet ouvrage, réaffirmant l'enseignement crucial véhiculé dans ses pages sur le caractère problématique de la politique et les limites qui la constituent. L'Étranger établit ces arguments de la manière suivante : tout d'abord, il réaffirme le principe philosophique et politique fondamental établi au début du dialogue, à savoir le principe selon lequel ce qui définit le statut du véritable roi, le roi sage (φρόνιμος βασιλεύς), n'est pas la simple possession du pouvoir, mais plutôt la maîtrise d'une science spéciale, la science du gouvernement des hommes (ἐπιστήμη περὶ ἀνθρώπων ἀρχῆς), science « dont l'acquisition est peut-être la plus difficile et la plus importante » (σχεδὸν τῆς χαλεπωτάτης καὶ μεγίστης κτήσασθαι).⁶¹ Après avoir réaffirmé ce principe, l'Éléate en conclura que le seul régime politique droit (ὀρθὴ μόνη πολιτεία) est alors celui dans lequel l'exercice du pouvoir s'effectue conformément aux exigences de cette science, indépendamment du consentement des

⁶⁰ Cet aspect de l'enseignement du *Politique* a été bien compris par M. Naas, « From spontaneity to automaticity. Polar (opposite) reversal at *Statesman* 269c-274d », dans *Plato's Statesman. Dialectic, Myth, and Politics*, op. cit., p. 27, qui l'a exprimé comme suit : « When the Demiurge as father and teacher withdraws, when he takes his hands off the tiller of the universe at the beginning of the Age of Zeus, the universe as a whole and mankind in particular must imitate and remember the *teachings* of this absent father/teacher/navigator. The only way to stave off the catastroph within the age of Zeus is to remember the teachings of the Age of Kronos and to imitate as well as possible the movement of the universe during the Age of Zeus ».

⁶¹ *Politique*, 292 d-293 a.

citoyens ou même de lois et règlements écrits (γράμματα).⁶² Cela signifie que le meilleur régime est, selon le protagoniste du dialogue, une forme d'absolutisme ou d'*imperium legibus solutum*, c'est-à-dire un gouvernement illégal ou « anomique » (au sens étymologique du mot, bien entendu, pas au sens sociologique), dans lequel celui qui gouverne le fait de manière autocratique, sans être limité par des normes juridiques ou positives, en se guidant exclusivement par les lumières de son savoir et en imposant quelquefois à la cité, au moyen de la force (tuant ou exilant des citoyens), ce que lui serait plus utile.⁶³ Comme il est facile à voir, il s'agit là d'une thèse hardie, voire subversive, comme l'ont remarqué Brisson et Pradeau (2003, p. 53), étant donné que dans la pensée politique grecque traditionnelle la loi était toujours conçue comme le fondement de la πόλις.⁶⁴ Mais cette subversion platonicienne n'est pas gratuite : au contraire, elle s'appuie sur la conception selon laquelle la loi (νόμος), étant un précepte fixe, général et essentiellement simple (ἀπλοῦς), ne correspond pas à la complexité et au dynamisme foncier de la vie politique et ne peut pas par conséquent voir ce qui requiert chaque cas nouveau, alors que l'intelligence (φρόνησις) du roi sage voit justement le particulier et peut ainsi déterminer ce qui est le plus juste pour chaque occasion nouvelle, sans être gêné par l'entrave des règles abstraites. La plasticité de la φρόνησις est donc un principe

⁶² *Politique*, 293 a-d.

⁶³ *Politique*, 293 d-e; 300 c-d. C. Castoriadis, *Sur le Politique de Platon*, op. cit., p. 142-143, traite ces formulations platoniciennes avec une indisposition évidente, les considérant comme l'expression d'une simple « rhétorique » animée d'une intention provocatrice. Nous pensons cependant qu'ici Castoriadis se trompe encore une fois, ne réalisant pas que l'affirmation platonicienne de la nature épistémologique de la politique, avec ses déroutantes conséquences en ce qui concerne l'exercice anomique du pouvoir, découle de la compréhension rigoureusement cognitiviste de la politique avancée par Platon, conception selon laquelle la politique constitue une activité fondamentalement épistémique, impliquant en tant que telle le recours à une rationalité qui, grâce à une certaine vision de ce qu'est mieux et plus juste, peut faire table rase des lois.

⁶⁴ Sur ce sujet, voir J. de Romilly, *La loi dans la pensée grecque des origines à Aristote*. Paris, Les Belles Lettres, 1971. Au demeurant, la nature subversive de la thèse soutenue par l'Étranger à propos du caractère « anomique » ou illégal du meilleur régime est bien perçue par Socrate le Jeune, qui, après avoir entendu l'exposition de son interlocuteur, n'hésite pas à remarquer : « sur les autres points, Étranger, ce qui a été dit semble acceptable ; mais qu'on doive gouverner sans lois (τὸ δὲ καὶ ἄνευ νόμων δεῖν ἄρχειν), cela est dur à entendre (χαλεπότερον ἀκούειν ἐρρήθη) » (293e). L. Strauss, « Plato », dans *History of Political Philosophy*, op. cit., p. 74, attire l'attention sur ces mots de Socrate le Jeune dans les termes suivants : « Young Socrates, who is not shocked by what the stranger says about killing and banishing, is rather shocked by the suggestion that rule without laws (absolute rule) can be legitimate ».

plus efficace, dans l'accomplissement des actes nécessaires à un bon gouvernement, que les prescriptions froides et immobiles du νόμος.⁶⁵

Mais l'Étranger reconnaîtra bientôt le caractère problématique de cette conception, admettant que, dans les cités ordinaires, il est rare le surgissement d'un homme réellement supérieur aux autres citoyens dans le corps et l'esprit et capable de gouverner toujours « avec la vertu et la science » (μετ'ἀρετῆς καὶ ἐπιστήμης), utilisant la prérogative du pouvoir absolu en stricte conformité avec la vision de la justice, ce qui rend cette prérogative toujours exposée au danger de la tyrannie.⁶⁶ De toute façon, comme il semble suggérer le dialogue, on peut penser qu'un souverain qui se comporterait de la manière requise par la science politique, exerçant l'autorité absolue non pas selon ses intérêts particuliers, mais selon les lumières de son savoir et les exigences de la justice, agirait à l'intérieur de la cité comme une sorte de « dieu parmi les hommes ». Mais, comme le mythe nous l'a enseigné, le temps de Kronos, le temps du pastorat divin, est déjà révolu et, dans l'état historique actuel, dans lequel nous avons le gouvernement d'hommes et non de dieux, l'avènement d'une telle situation constituerait un phénomène politique sans aucun doute peu probable. Conscient de l'extrême difficulté de trouver l'homme politique idéal, Platon vient alors à l'approcher tacitement du pasteur de l'âge de Kronos, débouchant finalement sur la conclusion selon laquelle le gouvernement anomique du savoir qui caractérise la droite πολιτεία est en fin de compte un paradigme transcendant, c'est-à-dire une norme qui s'établit et se définit en face des formes politiques historiques comme « un dieu parmi les hommes » (οἷον θεὸν ἐξ ἀνθρώπων).⁶⁷ Il s'ensuit que la tâche principale que doivent accomplir les rois et les dirigeants des régimes actuels consiste à recourir aux lois et à s'efforcer d'imiter, à travers l'élaboration

⁶⁵ *Politique*, 293 e-297b. Sur l'opposition entre νόμος et φρόνησις dans ce passage, cf. S. Rosen, *Plato's Statesman*, op. cit., p. 158 : « The voice of *phronesis* is capable of innovation; writing is always the same, and *nomos* is the least mobile of writings. It is 'always simple' because it has one meaning and so cannot properly be applied to life, which is never simple. The Stranger is himself guilty of oversimplification in this passage because writing is open to interpretation, but he might reply that interpretation is the innovative voice of *phronesis*. When the Stranger speaks of 'the new' he is not thinking of innovation or progress in the modern sense, but rather of the variability of circumstances that call for different responses to situations that *nomos* would judge in the same way. The Stranger takes it for granted that *phronesis* is not revolutionary but prudent as well as flexible. Nevertheless it is fair to say that the rule of *phronesis* is open to radical change in a way that the rule of *nomos* is not ».

⁶⁶ *Politique*, 301 c-e.

⁶⁷ *Politique*, 303 a-b.

de législations écrites, la rationalité et l'excellence de ce modèle divin⁶⁸, s'inspirant à l'exemple des lointains bergers divins de l'âge de Kronos.⁶⁹

Enfin, grâce au développement de ces éléments, Platon nous montre comment la politique est marquée par une limitation fondamentale et ne peut pas être ordonnée de manière intégrale, devant donc toujours rester en dessous de ce qui serait le gouvernement d'une rationalité parfaite. Le concept même d'imitation, qui apparaît de manière décisive dans l'élaboration de cet enseignement philosophique, en est à coup sûr l'indice le plus expressif. En effet, l'imitation est une procédure qui devient nécessaire seulement parce qu'il y a une distance irrévocable entre le monde précaire où se déroulent les vicissitudes des actions humaines et le modèle divin qui doit lui servir de repère. L'imitation elle-même est donc un signe éloquent de la finitude de l'homme et de l'aporie de son état désenchanté, ce qui renforce le caractère humain, « trop humain » de l'homme politique et le clivage abyssal qui le sépare du mythique berger divin. Or, en observant ces éléments, nous pouvons dire, à la suite de S. Rosen, que sous la « rhétorique pieuse » de Platon dans le *Politique* se cache alors « une perception claire de la tragédie de l'existence humaine »⁷⁰, c'est-à-dire une perception claire de la solitude de l'homme face à la dureté et aux aspects les plus sombres et les plus cruels de son destin, aspects que l'homme lui-même ne peut complètement maîtriser. De là, nous réalisons que la leçon philosophique que le dialogue offre à ses lecteurs est donc vraiment une leçon sur les limites fondamentales de la politique, leçon qui constitue un puissant antidote contre les rêves de toute-puissance qui habitent tout idéalisme politique : dans l'acte même où il nous montre le caractère fondamentalement humain et non divin de la politique, cet ouvrage nous enseigne, en effet, que la politique ne doit pas être considérée comme une activité omnipotente et nécessairement triomphante, mais plutôt comme une pratique d'êtres mortels qui, en tant que tels, sont marqués par une finitude radicale et inévitable, ne disposant pas du pouvoir de supprimer complètement à son gré les maux inhérents à la condition humaine, afin d'établir dans ce monde un royaume irénique et paradisiaque de

⁶⁸ *Politique*, 293 e; 297 b-c; 300 a-301 c.

⁶⁹ Selon M. Naas, « From spontaneity to automaticity. Polar (opposite) reversal at *Statesman* 269c-274d », dans *Plato's Statesman. Dialectic, Myth, and Politics*, op. cit., p. 26, "[...] the Age of Kronos seems to function in the dialogue as a sort of ideal to be imitated by the human statesman [...]". Il est à noter que dans les *Lois*, lorsque le protagoniste de ce dialogue reprend le mythe de Kronos, l'idée que les dirigeants politiques de nos jours doivent imiter le modèle du gouvernement divin qui est prévalu à l'âge de Kronos est explicitement affirmée. Cf. *Lois* IV, 713 a- 714b.

⁷⁰ S. Rosen, *Plato's Statesman*, op. cit., p. 8

paix et de justice parfaites. Platon, contrairement à Machiavel, ne croit pas que l'homme puisse contrôler la fortune, et dans le *Politique*, en particulier, il mobilise, comme nous l'avons vu, toutes ses ressources poétiques et littéraires pour nous montrer que l'utopie de l'état paradisiaque qui nourrit un certain imaginaire moral ne se trouve pas dans un temps futur situé devant nous, c'est-à-dire dans quelque obscur avenir, mais plutôt dans un passé mythique de l'humanité, un passé qui, précisément parce qu'il est mythique, échappe à l'histoire réelle des hommes et ne peut être restitué à l'actualité du présent. Cela veut dire que tout ce que les hommes peuvent faire ici et maintenant consiste à affronter la dureté de leur condition et les forces cruelles de l'histoire et de la nature sans illusions, en s'appuyant dans cet affrontement sur les ressources limitées de leur rationalité. Il s'agit là certainement d'un message destiné à neutraliser la tentation prométhéenne du volontarisme et qui, comme l'a vu très bien Strauss⁷¹, nous enseigne d'une manière plus manifeste ce qui dans la *République* était largement voilé, à savoir : l'impossibilité historique de régime politique parfait.

Richard Romeiro Oliveira

Universidade Federal de São João del-Rei

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⁷¹ L. Strauss, « Plato », dans *History of Political Philosophy*, op. cit., p. 71-72.

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Education, Conflict and Harmony in Book 1 of Plato's *Laws*

Diego García Rincón

Book 1 of Plato's *Laws*, and particularly the image of the puppet introduced near its end, has been traditionally interpreted as presenting the moral psychology model that underlies the educational system delineated by the Athenian Stranger, which construes virtue as consonance between the non-rational and the rational elements of the soul. But a different and competing conception of virtue looms large in *Laws* 1, virtue as victory of the best part of the soul in psychic conflict. This paper argues that the Athenian's conception of education as the correct conformation of originally conflicting psychic forces requires the simultaneous presence of the harmony and the conflict models of virtue in *Laws* 1. Education is in turn defined by calculation, the rational activity which persuasively leads the conflicting non-rational forces towards a consonant reciprocal rapport. By strategically developing his understanding of education and calculation in *Laws* 1, the Athenian shows how the harmony model of virtue overcomes the conflict model, while at the same time recognising that there is some truth to the conflict model after all and integrating it within the harmony model.

Introduction

Book 1 of Plato's *Laws* has been the object of much detailed scholarly attention in the last years.¹ Spousing what could be termed the 'traditionalist' reading, most commentators agree that the image of the puppet at the end of Book 1 (644d–45d) lays out the moral psychology for the construal of virtue as concord or consonance, the model of virtue which underlies the educational project that the Athenian Stranger develops in Books 1, 2 and 7², and some even extend the relevance of the image's moral psychology

¹ I would like to thank Dr. Alfonso Flórez for his contribution to the development of many of the views expressed here, and Dr. Fabio Morales for his valuable and detailed comments on earlier drafts of this paper.

² So C. Gaudin, 'Humanisation de la Marionette. Plat. *Leg.* I 644c–645d; VII 803c–804c', *Elenchos* 23 (2002) 271–95, 273; E. Jouët-Pastré, *Le jeu et le sérieux dans les Lois de Platon* (Sankt Augustin: Academia Verlag, 2006) 42; C. Zuckert, *Plato's Philosophers: The Coherence of the Dialogues* (Chicago: University of Chicago Press, 2009) 69ff.; D. Frede, 'Puppets on strings: Moral Psychology in *Laws* Books 1 and 2', in C. Bobonich, ed., *Plato's Laws: A Critical Guide* (Cambridge: Cambridge University Press, 2010) 108–26, 117; M. Schofield, 'Plato's

to the whole work.³ The main reason for this is that the Athenian presents the puppet image shortly after the first detailed discussion on the nature of education (641e–44b), and its appearance is closely followed by the elaboration of concrete educational institutions, in which the image of the puppet plays a prominent role. As Susan Sauvé-Meyer has recently shown⁴, however, in Book 1 of the *Laws* there is also much talk of virtue as victory in psychic and political conflict, a talk that the Athenian carries on for long after he has openly expressed his discontent with such an understanding of virtue. The consideration of conflict is indeed so persistent that, against the traditionalist reading, victory in conflict and not the psychic consonance which is the aim of education could be construed as the predominant model of virtue in Book 1. So ‘readers of the dialogue,’ Sauvé-Meyer says, ‘must face the question of why the Athenian continues to appeal to the conflict model even though he does not endorse it and has discredited it’.⁵

Taking my cue from Sauvé-Meyer’s distinction of the ‘harmony’⁶ and the ‘conflict’ models of virtue, I would like to offer a traditionalist reading of Book 1 of the *Laws* which takes into account the role that conflict plays in its moral psychology. The kernel of my argument lies in the interpretation of the Athenian’s conception of education

Marionette’, *Rhizomata* 4/2 (2016) 128–53, 132; and most recently J. Annas, *Virtue and law in Plato and Beyond* (Oxford: Oxford University Press, 2017) 86. H. Fossheim instead maintains that the aim of the image is ‘not to function as a model for moral psychology, but to give an exhortative picture of how we should see ourselves as weak and far from the gods in qualities’ (‘The *Prooimia*, Types of Motivation, and Moral Psychology’, in C. Horn, comp., *Platon: Gesetze – Nomoi* [Sankt Augustin: Academia Verlag, 2013] 87–104, 92). As we will see, given the central role that the terminology of the puppet plays in the discussion of education in Books 1 and 2, it is hard to defend that the image has such a limited scope.

³ Cf. J. Wilburn, ‘Akrasia and Self-Rule in Plato’s *Laws*’, *Oxford Studies in Ancient Philosophy* 43 (2012) 25–53, 27, and more recently J. A. Giménez Salinas, ‘La psicología moral de la marioneta. Conflicto y acuerdo en las *Leyes* de Platón’, *Ideas y Valores* 68.171 (2019) 137–159, 139.

⁴ See S. Sauvé-Meyer, ‘Self-Mastery and Self-Rule in Plato’s *Laws*’, in D. Brink, S. Sauvé-Meyer, and C. Shields, eds., *Virtue, Happiness, Knowledge: Themes from the Work of Gail Fine and Terence Irwin* (Oxford: Oxford University Press, 2018) 97–109, 99 ff. The expressions ‘conflict model for virtue’ and ‘harmony model for virtue’ are taken from Sauvé-Meyer.

⁵ ‘Self-Mastery’, 99.

⁶ It must be noted that the term actually used by the Athenian to describe the virtuous state of the soul is ‘concord’ or ‘consonance’ (συμφωνία), and not ‘harmony’ (ἁρμονία), which is the term Socrates uses in the *Republic* to describe moderation (cf. 431e; note however the expression ‘συμφωνία τινὶ καὶ ἁρμονία προσέειπεν’ [430e], where Socrates uses the two terms almost as synonyms). In order to avoid ambiguity (see n. 6), I follow Sauvé-Meyer in her general designation of the Athenian’s virtue model as the ‘harmony’ model, although it would be more literal to speak of the ‘consonance’ model.

as the process by which struggling psychic forces are brought to consonance with each other. The Athenian's conception of education and the moral psychology that he offers to support it explain, I suggest, why *both* the 'conflict' *and* the 'harmony' models of virtue *must* be present in Book 1 in general and in the image of the puppet in particular. This approach presupposes that, as the traditionalist reading maintains, the puppet's moral psychology can only be rightly interpreted by explaining how it fits into the Athenian's broader account of education.

I will start by calling attention upon the various ways in which the Athenian prompts us to recognise political and psychic conflict as the starting point from which consonance is produced in the city and the soul by means of education. This will allow in the second section for a more precise formulation of the two models of virtue, in which conflict and consonance/harmony are differentiated *qua* states of the soul, on the one hand, and *qua* processes of acquisition of virtue containing multiple soul-states, on the other.⁷ This distinction will help untangle some of the difficulties raised by Sauv  -Meyer, so that the relation between the two models can be precisely formulated as the integration, within the harmony model of virtue, of some of the central theses of the conflict model.

To support his understanding of education the Athenian presents a moral psychology that explains how the *state* of conflict arises among the psychic forces and how the *process* of their correct conformation through education and legislation works. I turn to this in the third section. As we will see, the initial sketch of moral psychology (644b–d) establishes rational calculation as 'the best part in us', the part that ought to be victorious in psychic conflict but which, paradoxically, is *not* depicted by the Athenian as partaking in it *in the same sense* as the non-rational forces. The reason for this qualified exclusion of calculation from psychic conflict will become clear with the analysis of the image of the puppet in the fourth section. Calculation is a 'pull' in the soul, but its 'soft and forceless' nature makes it impossible for it to forcefully partake in conflict and thus overcome the non-rational elements of the soul. It is involved in the conflict through its association with some non-rational elements, the 'helpers' of calculation.

The argumentative strategy of the Athenian in Book 1 will thus become clear. By exposing his understanding of the process of education, perfected with the development of calculation in the citizen, he shows that the 'victory' of 'the best part in us' is not the

⁷ Anticipating the distinction, the term 'harmony' will refer exclusively to the Athenian's model of virtue understood *as a process*, while the term 'consonance' is reserved for the psychic *state* at which the harmony model of virtue aims.

kind of forceful victory required by the conflict model of virtue, since calculation isn't capable of exercising force. Calculation by its very nature rather aims at psychic consonance, a state in which no part of the soul vanquishes the others. However, the Athenian recognises that this process does begin with psychic conflict. In this way, I submit, the Athenian manages to overcome the conflict model of virtue while integrating its share of truth within the harmony model. The traditionalist reading of the puppet image thus prevails, but it has to grant that the psychic state of conflict is indeed the starting point for any consonance-oriented form of education.

I. Education and Conflict

The Athenian first defines education as the guidance 'towards human goodness (πρὸς ἀρετήν), producing a desire and a passion (ἐπιθυμητήν τε καὶ ἐραστήν) to become a complete citizen, one who knows how to rule and be ruled in accordance with justice' (643e).⁸ As has been often noted, although it certainly implies a link with normative beliefs, education as described here operates at the non-rational level of the citizen's desires and passions.⁹ Its first stage consists in the correct orientation of these non-rational forces through play, by means of which children are led towards desire and love (εἰς ἔρωτα 643d) of the activities they will have to excel in when they become adult citizens. This is stressed again by the Athenian in a later definition of education that enumerates more fully the non-rational forces that are to be oriented. The aim is that 'pleasure, friendship, pain, and hatred arise in the proper way (ὀρθῶς) in the souls of those who cannot as yet grasp the reason (μήπω δυναμένων λόγῳ λαμβάνειν) for them' (653b). The correct way conformation of the non-rational will be showed to consist in a kind of consonance or agreement between the various forces that constitute it, and between it and the rational faculties. These provisional definitions will be further expanded with a more exhaustive delineation of the non-rational elements of the soul, as well as with the addition of the rational development needed to produce a fully formed citizen. But it should be noted that in every attempt at definition made by the Athenian

⁸ The translation given throughout is that of T. Griffith, trans., and M. Schofield, ed., *Plato: The Laws* (Cambridge: Cambridge University Press, 2016).

⁹ For a representative example, see G. Klosko, *The Development of Plato's Political Theory* (Oxford: Oxford University Press, 2006) 219.

the overall aim remains one and the same, namely to produce consonance among the various elements in the soul.

The ‘harmony’ model of virtue on which this understanding of education is based is spelled out by the Athenian at the beginning of Book 2: ‘if, when they do grasp the reason (λαβόντων δὲ τὸν λόγον), their feelings are consonant with that reason because they have been correctly trained by the appropriate habits, then this consonance is in general called human goodness (ἡ συμφωνία σύμπασα μὲν ἀρετή)’ (653b). According to this, the virtuous state of the soul is one in which there exists consonance, agreement or concord between the various psychic elements. This formulation of the harmony model of virtue at the beginning of Book 2 represents the climax of a series of critical remarks that the Athenian elaborates throughout Book 1 in response to the Dorian conception of virtue, introduced by Clinias almost at the beginning of the dialogue. This Dorian conflict model of virtue is based on the assumption that ‘there is always, for all of us, a lifelong and continuous state of war (πόλεμος) against all others cities’ (625e). When pushed by the Athenian’s questions, Clinias goes on to add that this state of war extends to households against each other, and to individuals against each other and even against themselves: ‘all are the enemies of all, in the public and private sphere,’ and ‘every individual is enemy to himself’ (626d). Virtue thus consists in the capacity of achieving victory over ‘oneself’ (be it a city, a household or an individual), that is, achieving the victory of the best part of oneself over the worse parts (627a–c).¹⁰

On the face of it, the two models of virtue seem to be completely at odds with each other. One presents a conflictive political or psychic ensemble in which the best part must vanquish the others, the other a consonant ensemble in which conflict doesn’t arise. Surely, one could argue that the two models are simply put forth by different characters of the dialogue, so that in principle there must not necessarily be any link between them. However, this does not answer the question of why Plato presents the two models as competing in Book 1 of the *Laws*, only to make the conflict model disappear from Book 2 onwards. From the perspective of the argumentative structure of the dialogue, this raises the question about the relation in which each model stands to one another. Can they be somehow integrated, as I would like to suggest, or is the divide between them final? Two

¹⁰ This later bit is a crucial step in the argumentative structure of Book 1, and is analysed well by C. Jorgenson, *The Embodied Soul in Plato’s Later Thought* (Cambridge: Cambridge University Press, 2018) 26–7.

main positions have been recently defended: on the one hand, Malcolm Schofield argues for a total defeat of the conflict model by the harmony model, while Sauvé-Meyer defends the irreducible opposition and persistence of both models.¹¹ The position I delineate here lies somewhat at the midpoint between these two poles. It seems to me that the harmony model ultimately prevails, but that the truth in the Dorian conflict model is nevertheless recognised by the Athenian, in the sense that political and psychic conflict become integrated in a complex way within the harmony model of virtue. I will now start to substantiate this claim by showing that, according to the Athenian, political and psychic consonance are states attained through the appeasement of an initial state of conflict.

Just after Clinias' initial formulation of the conflict model, and in order to criticise it, the Athenian presents an analogy that offers key insight into the relation between conflict and consonance as they arise in social ensembles. He invites his interlocutors to imagine a family in which most of the brothers were born bad and only a small part of them good, a family that would inevitably enter into conflict with itself. In such a scenario, a judge who wanted to resolve the conflict would find himself before three alternative solutions:

Which would be better — the judge who destroyed those of them who were bad, and told the better ones to be their own rulers, or the one who told the good ones to be rulers, but allowed the worse to live, having made them willing to be ruled? And presumably, with our eye on excellence (πρὸς ἀρετήν), there is a third judge we should mention —supposing there could be such a judge— the one who would be able to take this single family which is at odds with itself (διαφερομένην) and not destroy any of them, but reconcile (διαλλάξας) them for the future, and give them laws to keep them on good terms with one another. (627d–28a)

The first alternative entails the complete victory of the good brothers by means of violence and could be seen as the ideal scenario according to the Dorian war-oriented legislations, although it could be argued that the destruction of a faction is hardly a 'solution' for a conflict. As Sauvé-Meyer notes, the second alternative is difficult to differentiate from the third one, mainly because the bad brothers submit to the rule of the good ones willingly (ἐκόντας).¹² For how is the agreement on the rule of the best different from the peaceful state that, as we will see, the Athenian sees as characteristic of the best social ensemble? Be that as it may, the Athenian openly endorses the third solution, where

¹¹ Cf. Schofield, 'Plato's Marionette', 147–9, and Sauvé-Meyer, 'Self-Mastery', 108.

¹² 'Self-Mastery', 101

no use of violence is made and the friendly coexistence of the brothers is achieved by means of legislation.

After Clinias admits that the third is indeed the best solution, the Athenian goes on to draw the political conclusion that, in a city as well in the hypothetical family, ‘what is best is not conflict, nor civil war (things we pray there will never be a need for), but rather peace —yes, and amity— with one another’ (628c–d). This means that the ultimate aim of the legislation is not victory in war, as the Dorians would have it, but peaceful relations of the city with other cities and with itself. The best legislator is consequently the one who ‘brings harmony’ to a city (ὁ τὴν πόλιν συναρμόττων 628a). Now, these remarks could be interpreted as saying that what is preferable is that conflict was never produced in the first place in the community, and that all along political consonance prevailed. But this cannot be the moral of the story of the brothers, I take it, for the Athenian has clearly presented the third alternative as *one* possible outcome for their initial conflict. As in the first two cases, in the third one the judge takes a family which is already at odds (διαφερομένην) with itself, and only then works his way towards reconciling (διαλλάξας) it through legislation. Moreover, the very nature of the law enacted to resolve the conflict implies that it can be transgressed, and that the consonance that resulted from legislation can be lost.¹³ Conflict would thus reappear in the community, and consonance would have to be regained. The upshot is that, even if the sociopolitical state of consonance does by definition consist in the absence of conflict, it is necessarily produced from an initial state of conflict and is always in danger of falling into conflict again.

The mechanism for resolution of conflict aiming at reconciliation and virtue (πρὸς ἀρετὴν 627e) shown in the preceding passage is by no means confined in the *Laws* to the political sphere. The initial conflict of the parts which are to be brought to consonance with one another, as well as the danger of falling back into conflict after consonance has been achieved, are both constitutive moments of the process of education exposed by the Athenian throughout Books 1 and 2. Initially, it could seem that the Athenian’s education has no room for psychic conflict, because its moral psychology rests entirely on the harmony model of virtue. The aim at consonance indeed underlies the definition of education as a direction of the citizen’s desires and passions towards virtue

¹³ This is the Athenian’s justification for the delineation of the *Laws*’ penal code in Book 9 (853a–854a). Cf. M. Schofield, ‘The *Laws*’ Two Projects’, in C. Bobonich, ed., *Plato’s Laws: A Critical Guide* (Cambridge: Cambridge University Press, 2010) 12–28, 23–4.

(643e), for the fundamental goal is to form the non-rational in such a way that it doesn't conflict with the rational once it develops (653b). It is nevertheless also true that the conformation of these non-rational elements is a process that starts from an initial conflict. This transpires in Book 1 by way of the language the Athenian uses to describe a concrete educational institution, the directed symposia which at first sight appear alarming to his Dorian interlocutors (see 638c–42a), and which become the main theme of the whole closing section of Book 1 (645c–50b). For reasons that will be discussed shortly, the Athenian depicts these educational symposia as a kind of Dorian war-training wherein a battle against pleasures is produced and in which the young citizen strives to achieve victory. 'Don't we have to bring him face to face with shamelessness,' the Athenian asks Clinias (647c), 'train him to fight against it, and in this way give him victory in his battle against his own pleasures (νικᾶν δεῖ ποιεῖν διαμαχόμενον αὐτοῦ ταῖς ἡδοναῖς)?'

That the soul of the young citizen is torn by conflict is proved by the fact that it is said to engage in battle against his own pleasures, thus recalling Clinias' earlier claim that 'every individual is enemy to himself' (626d). However, the scope of the symposia is not limited to enabling the young citizen to be victorious in this 'battle' against pleasure, a point made by the Athenian in Book 2, where the institution appears embedded within his broader considerations on consonance-oriented musical education (cf. 671b–72a). The ultimate aim is that the plastic state of soul produced by wine in the young citizens is exploited by the lawgiver 'to educate and shape them (παιδεύειν τε καὶ πλάττειν)' (671c), that is to say, to instil consonance among the formerly conflicting psychic elements.¹⁴ Once the non-rational elements become correctly trained, conflict is at least temporarily absent. This explains why, although the institution is partially modelled after Dorian war-oriented practices, its proper scope is described by the Athenian as a meeting 'of friends, gathering in peacetime (εἰρήνῃ) to share with friends in mutual goodwill (φιλοφροσύνης)' (640b; cf. 671e–72a), a description that closely recalls the characterisation of the best city, which lives in peace (εἰρήνῃ) and amity (φιλοφροσύνη) with itself and with others (628c–d).

If this is right, an important part of the citizen's consonance-oriented education operates from an initial state of psychic conflict. The Athenian thus brings to our attention

¹⁴ Giménez, 'La psicología moral', 155, is thus right in noting that even though moderation is acquired through a training analogous to that needed to produce courage, it doesn't consist in a strife among opposing psychic forces.

the basic fact that the need for instilling consonance in the soul can only arise from an original lack of such consonance. This allows to draw a parallel between what I take to be the sociopolitical and the individual psychological dimensions of the harmony model of virtue.¹⁵ Inasmuch as it presents a whole in disagreement with itself, the initial strife of the brothers is analogous to the initial conflict in the young citizen's soul. Furthermore, the peaceful state that arises through the reconciliation of the brothers' strife by means of legislation is analogous to the consonance aimed at by means of the educational symposia. The Athenian suggests this connection between education and law by saying that the person in charge of educating the souls of drunken young citizens is the legislator himself, who enacts 'laws to govern drinking parties' (671c), thus operating in a very analogous way to that in which the third and best judge reconciles the struggling brothers with one another through legislation. In both cases, then, the achievement of consonance presupposes an initial conflict in the ensemble which is to be brought to agreement with itself.

Moreover, in many cases the consonant psychic state achieved through education is bound to be lost. That the conflict thus produced concerns education is proved by the fact that the Athenian addresses this issue in the same passage in which he formulates the harmony model of virtue: 'this education that consists in a proper upbringing of pleasures and pains — it's only human for this to lose its effect and be in large measure destroyed over the course of a lifetime' (653c). The soul 'falls out of tune' (*χαλᾷται*), so that the need appears for the festivals that structure the social life of Magnesia, the Athenian's city in speech, educational institutions which guarantee that no citizen ever ceases to be under the (re)formative influence of the music and the laws (653c–54a). Education thus becomes a lifelong affair, and for our present purposes the relevant consequence is that the consonance at which it aims is a state of the soul which can neither be produced without presupposing an initial conflict nor avoid future conflict altogether once it has been produced.¹⁶

¹⁵ The distinction is also made by Sauv  -Meyer, who talks of the political, familial and individual 'cases' of each model of virtue (cf. 'Self-Mastery', 100, 104–5).

¹⁶ Regarding the psychological side of the issue, E. Belfiore, 'Wine and the Catharsis of Emotions in Plato's *Laws*', *Classical Quarterly* 36/2 (1986) 421–37, at 428–33, argues that the virtuous soul must be conceived of as containing in itself forces against which it must fight, and similarly C. Bobonich, *Plato's Utopia Recast: His Later Ethics and Politics* (Oxford: Clarendon Press, 2002) 289, claims that a virtuous individual could still have some conflicting non-rational elements within. I agree with them on the importance of maintaining conflict on the horizon after

II. *The integration of conflict within the harmony model of virtue*

Reformulating the Two Models

But is it not contradictory to claim that harmony allows for conflict? Surely, the state of a consonant soul or a peaceful city does by definition exclude any sort of conflict. This suggests another form of relation between conflict and harmony/consonance. Because in my account the harmony model of virtue recognises the existence of conflict and the need for its resolution, the fundamental difference between it and the conflict model seems to me to lie in the *modality* of the resolution of conflict in each model. I would like to make this point by offering a more precise delineation of the two models of virtue identified by Sauv  -Meyer. There seems to be an ambiguity in the use of the terms ‘conflict’ and ‘harmony’. In the strict sense, these terms refer to states or conditions of the soul: one in which the psychic elements are at odds with each other, another one where they agree; I have termed the latter ‘consonance’ to differentiate it from the ‘harmony’ model. In a general sense, the terms refer instead to models of virtue which depict a processual understanding of the states of the soul and of their dynamic reciprocal relationships and developments. According to this, the two models of virtue can be reformulated as follows:

1. The conflict model of virtue designates a *process* in which the *state* of conflict is subdued through the use of some kind of forceful compulsion that results in the victory of ‘the best part’ in the ensemble in question. As Clinias indicates, this response to the *state* of conflict doesn’t really eliminate the enmity between the parts (which is made to be natural and perpetual), but rather subdues it temporarily.
2. The harmony model of virtue designates a *process* in which the *state* of conflict among the parts is resolved by means of legislation and education, activities aiming at producing a *state* of consonance among the originally conflicting parts. Once achieved, this *state* of consonance can be lost, so that within the *process* designated by the harmony model we find a dynamic relation between the *states* of conflict and consonance.¹⁷

The difference between the two models, their respective modalities of response to conflict, is a not minor one. In trying to appease the initial state of conflict, the way of

virtue has been achieved, but I think that consonance as conceived by the Athenian is a state in which conflict is indeed *completely* absent, even if only temporarily so (so also Sauv  -Meyer, ‘Self-Mastery’, 103–4).

¹⁷ Gim  nez, ‘La psicolog  a moral’, 145, has recently proposed a similar distinction, although it is limited to the contrast between the process of acquisition of moderation and the moderate psychic state resulting from that process.

reconciliation advocated by the Athenian starkly contradicts Clinias' grim thesis that conflict is the natural (κατὰ φύσιν 626a) state of affairs in the city and in the soul, indeed extending throughout the whole of life (cf. 625e). According to the Athenian conflict is neither a necessary nor a natural state, but it is nevertheless the departure point from which consonance is produced.

This reformulation of the two models of virtue helps understand the Athenian's argumentative strategy in Book 1. Because consonance is generally born out of different forms of conflict, the Athenian can *partially* agree with Clinias' thesis of all-pervasive conflict while at the same time introducing progressively his 'harmony' model for conflict resolution. He does this first through his analogy of the strife among the brothers (627d–28a), then through his remarks on the consonance-oriented nature of true education (643e–d), and finally through the image of the puppet itself. It is therefore not the case that, in accepting conflict, the Athenian argues strategically for premises that he denies *tout court*, as Sauv  -Meyer maintains.¹⁸ The Athenian is prepared to accept Clinias' conflict thesis in a reduced, less radical version in which it is subordinated to achieving a state of consonance. Albeit in a heavily qualified way, one of the main tenets of the conflict model of virtue thus becomes integrated in the harmony model.

Persuading the Dorians: the Athenian's Strategy

There is one central difficulty regarding the Athenian's argumentative strategy. After he first criticises Clinias' conflict model through his analogy of the strife of the brothers, he is quick to conclude that for a city what is best is not war or faction, but rather peace and amity (628c–d). As Sauv  -Meyer points out, however, in this passage the Athenian fails to draw explicitly the analogous conclusion regarding the superiority of psychic consonance over victory in psychic conflict.¹⁹ He presents the harmony model of virtue in its political version, but not in its psychological version. To be sure, the Athenian does remark that they are dealing with 'a question of happiness for a city or an individual (καὶ πρὸς πόλεως εὐδαιμονίαν ἢ καὶ ἰδιώτου)' (628d), and this could be taken as implying that he holds his conclusion to be valid also in the psychological sphere. Similar formulations are present throughout Book 1 regarding related themes such as the

¹⁸ 'Self-Mastery', 99.

¹⁹ 'Self-Mastery', 102 ff.

centrality for legislation of pleasures and pains ‘whether in cities or in the behaviour of individuals’ (636d), or the benefit that correctly supervised symposia represent for ‘private individuals or the city’ (641b). Significantly, the formulation is also echoed in the puppet image itself, whose moral is made to apply to ‘the city and the individual’ (645b). All this suggests that, although the analogy between the city and the individual is not explicitly stated by the Athenian as it is by Socrates in the *Republic* (441e–44b), it remains operative in the *Laws*, as it certainly is in the Athenian’s initial questioning of Clinias at 626b–d, where he makes Clinias conclude that what is valid for the state of war among cities is also valid among households and among individuals.

The problem nevertheless remains that the Athenian does not explicitly present the full psychological formulation of the harmony model of virtue until the beginning of Book 2 (653b). This raises the question of why the Athenian continues to use the language of the conflict model of virtue after he has openly expressed his discontent with its political version. The issue becomes even more pressing when we arrive at the puppet image, where the language of conflict is so pervasive that Sauv  -Meyer interprets the image as addressing *exclusively* the central problem of the conflict model of virtue, namely how the best part of an individual can achieve victory over his worse parts.²⁰ Why indeed does the Athenian argue in this way?

To answer this question, other important features of the argumentative structure of Book 1 must be noted. While Sauv  -Meyer is right in emphasising that the Athenian introduces the image of the puppet by saying that it contributes to the understanding of self-mastery (644b), it is also true that the long stretch of text that goes from 641b to the puppet image is dominated by the theme of ‘education as a whole (παιδείας τῆς πάσης)’ (642a). Moreover, the closing section of Book 1 (645c–650b), which immediately follows the puppet image, is concerned with laying the foundations for a concrete educational institution, the symposia which will be extensively addressed in Book 2. The fact that the image of the puppet is thus surrounded by an ongoing disquisition on education indicates that the image itself must contribute to this subject, which the Athenian significantly puts at the basis of all the other subjects presently under discussion (cf. 642a). Therefore, the scope of the image cannot be limited to formulating the psychological version of the conflict model of virtue, as Sauv  -Meyer maintains. As we will see in the fourth section, this is explicitly confirmed by the Athenian at the end of the puppet image (cf. 645c). The

²⁰ ‘Self-Mastery’, 106.

question thus becomes not why the Athenian continues to use the language of the conflict model after having criticised it, but why he uses the language of both models of virtue *at the same time* throughout Book 1 and embeds *both* of them in the image of the puppet.

I take this duplicity of the Athenian's language as an essential feature of the argumentative strategy he deploys to persuade his Dorian interlocutors that the harmony model of virtue is superior not only in its political version, but also in the psychological one. He introduces this strategy as a methodological proposal after his first criticism to the political version of the conflict model. The Athenian claims that, as any good lawgiver, the Cretan and Spartan lawgivers cannot have legislated only with an eye to courage, the lesser part of virtue (ἀρετῆς τι μόνιον ... τὸ φαυλότατον), but with an eye to virtue as a whole (πᾶσαν ἀρετήν) (630e). The aim of the discussion on laws should consequently be the whole of virtue, including (in decreasing order of importance) wisdom, temperance, justice and courage (631c–d; cf. 630b). Because his two interlocutors are mostly familiar with Dorian legislations in which courage plays a prominent role, however, he proposes to examine the whole of virtue starting from courage, the lesser part, and taking it as a paradigm (παράδειγμα θέμενοι) for the other three virtues, so that in this way they examine 'virtue as a whole' (632e).

The Athenian's insistence on the need for examining the whole of virtue reveals the strategy behind his methodological proposal. In a closely preceding passage, he claimed that the better individual is not the one who is courageous in external war, but the one who is loyal in faction thanks to the possession of 'virtue in its entirety (σμπάσης ἀρετῆς)' (630b). This formulation is exactly the same one found in the full appearance of the harmony model of virtue at the beginning of Book 2, where psychic συμφωνία is presented as 'virtue in its entirety (σύμπασα μὲν ἀρετή)' (653b). The passage at 630b could thus be taken as the first, albeit cursory, appearance of the psychological version of the harmony model of virtue.²¹ But the Athenian doesn't develop this psychological formulation of the matter, and this is where his strategy becomes evident. Instead of immediately arguing for the superiority of the psychological version of the harmony model (as he did with the political version), he chooses to examine the entirety of virtue *starting from courage*, thus choosing as a paradigm precisely that virtue which

²¹ The point is noted by Schofield: 'this is the Athenian's first statement of the conception of human goodness he will assume and articulate in different ways throughout the dialogue' (*Plato, the Laws*, 40 n. 15).

he deems to be the ‘lesser’ of the four. As Julia Pfefferkorn puts it, ‘courage is, in quite an ingenious manner, simultaneously devaluated and used as a ‘model’’.²² This can only make sense in light of the Athenian’s ongoing strategy to integrate conflict and courage within the harmony model of virtue, while persuading the Dorians that this operation is legitimate.²³ The qualified integration of Clinias’ all-pervasive conflict thesis within the harmony model of virtue is, I submit, one of the central features of this strategy.

The strategy requires that the Athenian models the moral psychology he presents to the Dorians in the puppet image after their war-oriented conception of virtue, although the image ultimately purports to clarify education and thus to illuminate the harmony model of virtue. Whether or not the Athenian manages to carry out this difficult project is open for discussion. I will try to argue that he does. Let us turn then to the initial sketch of moral psychology provided by the Athenian.

III. *The Constitution of the Individual Soul*

After his interlocutors accept the consonance-based definition of education and its political significance (644a–b), the Athenian recalls the earlier agreement that ‘those who are able to rule themselves (τῶν δυναμένων ἄρχειν αὐτῶν) are good, and those who don’t are bad’ (644b).²⁴ The agreement in question was produced when self-rule was defined as the victory in conflict of ‘the best (τοῦ ἀμείνονος)’ (627b) part in the city, the family and the individual. Now the precise nature of this ‘best part’ *in the soul* comes under examination, and the Athenian introduces an enumeration of the elements that constitute the individual soul. Each individual, he says, is a single entity ‘possessing,

²² J. Pfefferkorn, ‘Shame and Virtue in Plato’s *Laws*: Two Kinds of Fear and the Drunken Puppet’, in L. Candiotto and O. Renault, eds., *Emotions in Plato* (Leiden/Boston: Brill, 2020) 252–269, 260.

²³ Along the same lines, Zuckert, *Plato’s Philosophers*, interestingly reads Books 1 to 3 as an educational strategy to persuade Clinias and Megillus, the Athenian’s ‘students’ (64 ff.), to accept his legislative proposals. Schofield, *Plato, the Laws*, 52 n. 31, also notes that in a passage preceding the discussion of education the Athenian takes a ‘didactic stance’ (cf. 640a).

²⁴ The Athenian signals the continuity between the themes of education and self-mastery by his passage from one to the other through the preposition *kai* (644b6); cf. M. Folch, *The City and the Stage: Performance, Genre, and Gender in Plato’s Laws* (Oxford: Oxford University Press, 2015) 77. Schofield notices the coordination, noting that the enumeration of psychic elements that follows serves ‘the broader agenda of education for virtue – and in the first instance for courage – to which the treatment of self-rule is designed to contribute’ (‘Plato’s Marionette’, 132).

within himself, a pair of mindless and opposed (ἐναντίω) advisers – to which we give the names pleasure and pain’ (644c). He continues:

And in addition to these two, there are also opinions about what is going to happen, to which we give the general name ‘expectation’, but the particular name ‘fear’ for expectation of pain, and ‘confidence’ for expectation of the opposite. Presiding over all this (ἐπὶ δὲ πᾶσι τούτοις) — deciding which of them is better or worse — is ‘calculation’ (λογισμός); and when this is made a common enactment of a city (δῶγμα πόλεως κοινόν),²⁵ it is called ‘law’ (νόμος). (644c–d)

Shortly before this passage, the Athenian first defined education as the production in the citizen of desire and passion towards the rational principles of the political community (cf. 643e). As was noted, education thus defined requires the correct conformation of the non–rational elements of the soul. These elements are now explicitly named ‘pleasure and pain’, together with their respective anticipations, ‘confidence and fear’.²⁶ The conflictive nature of this non–rational psychic sphere is brought to the fore by means of the adjectives ‘opposed’ and ‘mindless’ (ἐναντίω τε καὶ ἄφρονε 644c), a characterisation extended to the anticipations themselves, whose activity tends towards ‘the opposite (πρὸ τοῦ ἐναντίου)’ (644d).

The Athenian continues his sketch with the addition of ‘calculation’, the activity by which the individual evaluates the inclinations of the non–rational forces. This evaluation leads to a judgment about what is best or worse (ἄμεινον ἢ χεῖρον 644d) in them. Calculation thus appears as a second, distinct level of activity operating over and referring to the first level of non–rational activity. This point is not uncontroversial. The translation accepted here construes the relation of calculation with the first level of non–rational activity as one of reflection and not as one of opposition. Sauvé–Meyer instead emphasises the presence of the conflict model of virtue in this passage by translating

²⁵ Here I follow Schofield, *Plato, the Laws*, 131 n. 5, in his modification of Griffith’s version, which seems to miss the point with the less literal translation ‘when this is enacted by the city as a whole’. The Athenian’s point seems not to be that the whole city participates in the enactment of the law, but rather that once enacted the law becomes ‘common (*koinon*)’ for the city.

²⁶ It is generally agreed that the expression ‘pleasures and pains’ refers to the sphere of non–rational phenomena in the human soul. So Bobonich, *Plato’s Utopia Recast*, 263; M. Sassi, ‘The Self, the Soul and the Individual in the city of the *Laws*’, *Oxford Studies in Ancient Philosophy* 35 (2008) 125–48, 131; Wilburn, ‘Akrasia’, 29, and S. Sauvé–Meyer, trans. and comm., *Plato’s Laws 1 and 2* (Oxford: Clarendon Plato Series, 2015) 175, who takes the expression as ‘the general category of non–rational motivation’.

ἐπὶ δὲ πᾶσι τούτοις as ‘against all these’,²⁷ so that calculation is understood as standing in opposition to the non-rational.

Because this passage has been introduced as a way of elucidating what self-control is, conflict must necessarily be present in it. It should be noted, however, that here it is pleasure and pain, confidence and fear that are explicitly characterised as opposed, not the rational and the non-rational. The dual form employed by the Athenian (ἐναντίω) indeed suggests that pleasure and pain are operative and oppose each other *on the same level*, while calculation comes into play only *on a second level* to judge the conflicting forces.²⁸ The enclosure of opposition and thus of conflict within the non-rational sphere is confirmed by the later characterisation of shame (αἰσχύνη), one of the two kinds of fears identified by the Athenian, as ‘opposed (ἐναντίος) to pain and other fears, but also opposed (ἐναντίος) to the most numerous and powerful pleasures’, as well as to ‘the boldness which is its opposite (τὸ τούτῳ θάρρος ἐναντίον)’ (647a; see also 649c). Opposition appears as a characteristic that belongs to the non-rational phenomena of the soul. Finally, the fact that these psychic forces are called ‘counsellors (συμβούλῳ)’ (644c), also in the dual, suggests that their activity is judged by an authority that by definition has to be above them in dignity, a point adequately captured by Griffith in the political metaphor of his translation, ‘presiding over all this’.

The superior dignity of calculation has important implications for our present discussion. By framing the relation between calculation and the non-rational sphere as one of reflection and not one of opposition, the Athenian has implicitly stated that calculation is ‘the best part’ in the soul, the one which ought to achieve victory if individuals are to rule themselves. But now some questions arise. Isn’t the stress on the need for the victory of calculation precisely what Clinias’ conflict model of virtue would require? How does the harmony model enter this picture?

To understand how the Athenian’s argumentative strategy is at work in this passage we must take into account the crucial fact that calculation is *not* depicted as opposing other elements in psychic conflict. This should not be taken to mean that

²⁷ *Laws I and 2*, 40; cf. also 176.

²⁸ Recently, Giménez, ‘La psicología moral’, 147–9, and Pfefferkorn, ‘Shame’, 265, have also emphasised that conflict proper is enclosed within the non-rational sphere of the soul, so that the intervention of calculation (which is never called an ‘opposite’) in it can only happen through association with an already conflicting force.

calculation is altogether unrelated to the non-rational conflict, however. By judging what is better or worse in the opposing non-rational elements, calculation allies with the elements it judges to be better and thus opposes the others. But this participation is not a direct one, as it were, and should rather be understood as a *mediated* or *indirect* kind of participation through association.²⁹ Therefore, the Athenian's exclusion of calculation from non-rational psychic conflict is qualified: calculation doesn't partake in conflict *in the same sense* as the non-rational elements.

The fundamental reason for this qualified exclusion of calculation from psychic conflict will become clear in the image of the puppet. It is the forceless nature of calculation which makes it impossible for it to partake directly in the conflict. This is the crucial turning point in which the Athenian will effectively integrate and subordinate psychic conflict (and the courage needed to be victorious in it) within the harmony model of virtue. The nature of calculation ultimately explains why the conflict model of virtue is unable to give an adequate account of education and of virtue. I will now attempt to show how the Athenian makes this point in the image of the puppet.

IV. *The two Models of Virtue in the Image of the Puppet*

Once the Athenian has given his first sketch of the moral psychology involved in education and in the phenomenon of self-rule, his Dorian interlocutors confess that they haven't understood it. 'I'm having a bit of difficulty following this' (644d), says Clinias. The Athenian offers the puppet image as a way of clarifying what he meant with the first sketch. Here is how he introduces the image:

Let's take the view that each one of us living creatures is a puppet belonging to the gods, put together either as their toy or for some serious reason — that being something we don't know. What we do know is that these feelings (πάθη) we have are like tendons or strings inside us, drawing us but pulling in opposite directions, towards opposite actions, and in fact the demarcation line between human goodness and badness lies here. According to this account (λόγος), there is one of the pulls which each of us must always follow, never letting go of that string, and resisting the other tendons; this pull comes from the golden and sacred string of calculation (λογισμοῦ), which calls in aid (ἐπικαλουμένην) the public law of the city (τῆς πόλεως κοινὸν νόμον); the other strings are hard, made of iron — where this one is pliant, being made of gold — but resembling various kinds of things; and we must always cooperate with the finest pull, which is from the law, since calculation, fine as it is, is also gentle and non-violent (πράου δὲ καὶ οὐ βιαίου), and therefore its pull needs helpers, to make sure the golden type of string within us overcomes (νικᾷ) the other types. (644d–45a)

²⁹ Cf. Giménez, 'La psicología moral', 155.

One notices a tension between the elements of the comparison. We, living beings that move themselves, are said to be like artefacts, which notoriously don't have in themselves the principle of their own movement, and in this respect aren't like us. As Leslie Kurke has pointed out³⁰, however, the puppet is no mere artefact, but one that gives the illusion of self-movement and thus seems to be alive. By way of its appearance of self-movement, the puppet seems to be like us, living beings. Inversely, we seem to be like puppets insofar as the strings of pleasure and pain (our *pathē*) make us move mechanically, in such a way that our actions are not the result of reflective rational activity. In the image as in the passage that introduces it (644c–d), these non-rational forces of pleasure and pain are depicted as being opposite to one another (ἐναντία οὔσαι), suggesting again that they are the conflicting forces that pull the individual towards opposite actions (ἐπ'ἐναντίας πράξεις) (644e). The conflict proper is therefore depicted once more as arising within the non-rational sphere of the soul.

As long as no rationality arises, human beings are bound to be 'yanked around,'³¹ drawn as they are by the ferrous forces of pleasure and pain. Calculation enters the picture to remedy the blindness of the movement thus produced by the non-rational conflict. Its task is once again presented as the determination of what is best and worse in the non-rational forces.³² By its very nature, this rational activity can hardly be on the same level as the blind conflict between pleasure and pain, so that the puppet image seems to confirm Griffith's interpretation of calculation as 'presiding over' the non-rational forces in the introductory sketch offered by the Athenian. Here the superiority of calculation is signalled by the adjectives 'golden' and 'sacred': it is made of a different material, it has a divine status. Granted, it is one of the pulls (μῦα ... τῶν ἑλξεων) which define the puppet's movement, indeed the one it ought to follow, but it crucially *isn't* one of the opposing non-rational affections (πάθη ... ἐναντία) which partake in psychic conflict proper (644e). The point is crucial: calculation is never called *enantios* to anything in Book 1, while the non-rational forces are repeatedly depicted as opposed to one another. Calculation rather enters the conflict indirectly, by allying with the better non-rational

³⁰ L. Kurke, 'Imagining chorality: wonder, Plato's puppets, and moving statues', in A. Peponi, ed., *Performance and Culture in Plato's Laws* (New York: Cambridge University Press, 2013) 123–70, 126 ff.

³¹ Annas, *Virtue and law*, 88

³² I therefore agree with D. Frede, 'Puppets on strings', 119, that calculation is not a 'force' that actually struggles against others in the conflict inside the puppet, but the rational capacity of shaping and giving moral value to the non-rational forces.

pulls, which in this way become the ‘helpers (ὕπηρετῶν)’ (645a) that its forceless activity is said by the Athenian to be in grave need of.

Calculation’s Helpers: Law and Shame

This touches on the central problem for the puppet, namely that calculation, by nature gentle and non-violent (πράου δὲ καὶ οὐ βιαίου), doesn’t have force of its own to resist the ferrous non-rational forces. Furthermore, it is possible that it produces a false judgment about the moral value of the ferrous strings in a given situation. The image consequently goes on to explain both how to ensure that calculation is able to reach a true judgment, and how to ensure that this judgment is followed by the individual.³³ This is the task of law. Because calculation is both forceless and prone to error, it must call into aid (ἐπικαλουμένην)³⁴ the common law of the city. The political dimension of the puppet image recalls the one found in the Athenian’s initial sketch, the law being called ‘common (κοινόν)’ in both cases. As Schofield argues, law is common in the sense that it represents an intersubjective framework of reference for the rational activity of the individual, a framework that supports the truth of the judgment of calculation.³⁵ Moreover, by bringing the weight of the sanctions of the community into the decisive moment of acting in accordance with this judgment, law helps ensure that the individual effectively follows it. Through the connection with the common framework of reference of the law, then,

³³ On the difficult problem of *akrasia* in the *Laws* see Bobonich, *Plato’s Utopia Recast*, 246–66; L. Gerson, *Knowing Persons: A Study in Plato* (Oxford: Oxford University Press, 2003) 265–70, 266; C. Kahn, ‘From *Republic* to *Laws*. A Discussion of Christopher Bobonich, *Plato’s Utopia Recast*’, *Oxford Studies in Ancient Philosophy* 26 (2004) 337–62; and Wilburn, ‘*Akrasia*’, 26, who uniquely among commentators denies that Plato contemplates the possibility of acratia action in the *Laws*, defending instead that the self-rule or lack of it spoken of in the image of the puppet refer to general states of the soul.

³⁴ Following A. Nightingale, ‘Plato’s lawcode in context: rule by written law in Athens and Magnesia’, *Classical Quarterly* 49 (1999) 100–22, 104 n.13, Griffith and Schofield, *Plato, the Laws*, 59 read ἐπικαλουμένην in the middle voice, and translate it as ‘calling into aid’. This goes against the more usual translation of the passage, which reads the participle in the passive voice and thus has a λογισμός that ‘is called the common law of the city’ (cf. T. Pangle, *The Laws of Plato* [Chicago: University of Chicago Press, 1988] 25; see also Sauvé-Meyer *Laws 1 and 2*, 40–1, who however then supports the Griffith translation in S. Sauvé-Meyer, ‘Review of Griffith and Schofield 2016’, *Bryn Mawr Classical Review* 2018.03.49).

³⁵ The interpretation given here of the role of law follows closely that of Schofield, ‘Plato’s Marionette’, 140–146.

individuals go beyond their own powers, adopting a common, more universal point of view in their deliberations and actions.

The reliance of calculation on law points to one concrete way in which the former allies with the better non-rational elements to overcome the worse elements in psychic conflict. As noted by Pfefferkorn³⁶, shame (αἰσχύνῃ, 647a), defined as ‘the fear we often have of what people think’ (646e) of our words and actions, is construed by the Athenian as the ‘social emotion’ that corresponds functionally to the role attributed to law in the puppet image. For shame of being reproached by the community, the individual follows the law. In this sense, the Athenian depicts shame precisely as the kind of non-rational force that supports calculation in order to resist the worse non-rational forces of pain, fear, desire, pleasure, and boldness, forces to which shame is naturally opposed (see 647a ff.). By its very nature, then, shame becomes the basis for the Athenian’s educational symposia. The wine taken in these events intensifies the non-rational elements of the young citizen’s souls while weakening the rational element, so that with the help of shame they train themselves in resisting the various non-rational forces that get strengthened (645d ff.). According to the Athenian, this training helps bring about the correct organisation of the conflicting non-rational elements. The definition of education as the correct conformation of the conflicting non-rational forces towards consonance with calculation is therefore seen here in full operation.

The Double Purpose of the Puppet Image

If this interpretation of the puppet image is correct, then we can make good sense of its closing section, in which the Athenian reminds us that the image purported to explain *both* the phenomenon of self-mastery *and* education (cf. 645b–c). The nature of self-rule has been cleared up by showing that the golden cord overcomes (νικάῃ 645a) the ferrous non-rational forces when action follows the judgements of calculation, the ‘best part in us’. As we have seen, this victory is achieved by calculation indirectly, by means of its alliance with non-rational forces such as shame, which partake directly in the

³⁶ ‘Shame’, 258 n. 12. The point had been previously hinted at by Schofield, *Plato, the Laws*, 59 n. 43, but Pfefferkorn offers a very detailed analysis of the way in which the ‘secondary emotions’ (265) of anticipation ally with calculation to oppose the ‘primary emotions’ of pleasure and pain proper.

conflict, oppose the worse non-rational elements and help the citizen take the upper hand in the battle against his own pleasures (cf. 647c).

This points in turn to the significance of the image for education. It is through educational institutions that the alliance between calculation and the better non-rational forces is achieved. But the very nature of education, which strives towards psychic consonance, frames the victory of calculation within the wider educational aim at consonance itself, that is to say, within the harmony model of virtue. Education makes use of conflict by procuring the alliance between calculation and the better non-rational forces, but it significantly doesn't take conflict to be the natural and perpetual state of the soul, as the conflict model of virtue does. Instead, it envisages the eventual appeasement of conflict in a non-violent way that brings about a consonant state of soul.

Even if the conflict model of virtue is undoubtedly present in the puppet image, then, the image is ultimately concerned with illuminating the moral psychology for educational institutions based on the harmony model of virtue, the first instance of which is the Athenian's directed symposia. This is signaled in the image itself by way of a key terminological resonance. As noted by Sauv  -Meyer herself³⁷, the talk about 'grasping the meaning (λόγον ... λαβόντα)' (645b) of the puppet image anticipates the full definition of the harmony model of virtue, where the expression is used to describe both the individual's incapacity to engage in calculation (μήπω δυναμένων λόγῳ λαμβάνειν) and the decisive moment when he becomes able to exercise it (λαβόντων δὲ τὸν λόγον) (653b). Grasping the meaning of the image amounts to exercising calculation, insofar as the dynamics of the pulls in the soul begin to be understood. This is taken by the Athenian to be the final step in education towards consonance, the step that completes the formation of a perfect (τέλειον 643e) citizen. The fact that this final educational step in the harmony model of virtue is described by the Athenian with the vocabulary of the image of the puppet seems to me to provide further confirmation that the image is mainly concerned with illuminating the nature of education.

V. Conclusion

This account helps understand the Athenian's strategy in persuading his Dorian interlocutors of the superiority of the psychological version of the harmony model of

³⁷ *Laws 1 and 2*, 185.

virtue. The Athenian announced this strategy by proposing that the old men take courage as the paradigm for understanding the three higher parts of ‘the whole of virtue’ (632e). To carry out this project, the Athenian agreed with a qualified version of Clinias’ all-pervasive conflict thesis, recognising that political and psychological conflict in fact constitute the basis for any consonance-oriented legislative and educational project. Moreover, the Athenian also agreed that victory in conflict should be achieved by ‘the best part in us’. I see these argumentative steps as explaining the Athenian’s continued use of the language of the conflict model of virtue throughout Book 1.³⁸

However, the Athenian also showed in the image of the puppet that calculation, the best part in us, is essentially ‘soft and forceless’, so that it can be victorious in conflict only by means of its alliance with the non-rational ‘helpers’. This is the point in which the Athenian will not agree with Clinias’ conflict model anymore, for the alliance between calculation and the better non-rational forces, an alliance initially operated through education, essentially aims at psychic consonance. The state of conflict is indeed the starting point for education, but it is neither natural nor perpetual, and the final aim is to dissolve it in the consonant ensemble. By first accepting that psychic conflict plays a significant role in education and then showing that education itself aims at producing consonance out of the initial state of conflict, the Athenian effectively subordinates the state of conflict within the harmony model of virtue. This subordination is operative in the directed symposia he proposes to his interlocutors, educational institutions presented as a kind of Dorian training aiming at courage but that, nevertheless, ultimately aim at producing consonance in the souls of the citizens.

The Athenian thus qualifiedly integrates some central tenets of the conflict model of virtue within the harmony model, while doing away with the conflict model itself and with its grim view of human nature. From the beginning of Book 2 onwards, the conflict model consequently becomes ‘obsolete’³⁹, its language disappearing almost completely from the discussion. The Dorian elders seem to have understood that the Athenian has presented them with a better conception of virtue, one which takes conflict into account but also amplifies the scope of education to aim at the ‘whole of virtue’ in the consonant soul. As a result, after the Athenian’s full formulation of the harmony model of virtue,

³⁸ This continued use has lead Sauvé-Meyer to speak of the ‘persistence of the CONFLICT model’ (‘Self-Mastery’, 107).

³⁹ The term is Schofield’s (‘Plato’s Marionette’, 149).

Clinias explicitly expresses his agreement with it: ‘Yes, my friend. The things you said earlier about education seemed to us to be correct – and the same goes for the things you’ve just been saying’ (653c). The Athenian is now able to undertake further elucidations on the nature of education, and the Dorian elders present almost no resistance to the proposals he will make. If then, as Pfefferkorn remarks, ‘conflict and the necessity to find an agreement are reflected in the lively discussion between the three characters’⁴⁰, Clinias’ response could be taken to mean that an agreement on the nature of virtue and education has indeed been reached.

Diego García Rincón
Ludwig-Maximilians-University

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⁴⁰ ‘Shame’, 260.

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Proofs by *Reductio ad Impossibile* in Aristotle's *Prior Analytics*¹

Antônio Mesquita Neto

Abstract: This paper aims at clarifying the procedure of proofs by *reductio ad impossibile* in Aristotle's *Prior Analytics*, especially elucidating what can be taken as impossibility in such proofs. Traditional interpretation has it that the impossibility in Aristotle's *reductio* proofs must be a contradiction. I argue for an alternative interpretation according to which both contraries and contradictions are suitable as the impossibility required by the proofs in question. I also present a definition of proof by *reductio ad impossibile* in accordance with the alternative interpretation.

A first distinction to be made, in order to introduce the main point of this paper, is between syllogism and proof. Such a distinction is not easily made nor is it free of controversy. Consider the following preliminary distinction. Let syllogism be an inference of a conclusion from a set of premises that satisfies Aristotle's definition of syllogism in *Prior Analytics* I 1 (24b18-22)². Thus, a proof of that inference is also an inference of the same conclusion from the same set of premises that satisfies Aristotle's definition, but an inference that contains additional steps between the premises and the conclusion in order to show that the first inference is syllogistic³. Moreover, consider the following examples of each part of the distinction: an example of syllogism is the

¹ I would like to thank Professor Wellington Damasceno (UFG), Professor Mateus Ferreira (UEM), Professor Vitor Bragança (UFG), Cristiane Martins (UFG) and an anonymous referee for their helpful comments on drafts of this paper.

² Scholars have been debating over Aristotle's definition of syllogism. Its interpretation is controversial and its study is not under the scope of this paper. For further information and references on Aristotle's definition of syllogism, see Smith 1989, p. 109-110 and Striker 2009, p. 78-82.

³ Aristotle's proofs in the *Prior Analytics* aim at showing that an inference is syllogistic. Whether being syllogistic is the same as being valid is a matter beyond the scope of this paper, but that should not be taken for granted. There are passages that suggest that being syllogistic requires more than mere validity. One of these passages is the aforementioned definition of syllogism in *Prior Analytics* I 1 (24b18-22).

inference $AaB, AoC \vdash_{syl} BoC$ ⁴, called ‘*Baroco*’, and an example of proof is the *reductio ad impossibile* in *Prior Analytics* I 5 that shows that *Baroco* is syllogistic (27a36-b1).

Aristotle uses three kinds of proof to show that inferences are syllogistic: deictic or direct proofs (ἡ δεικτική ἀπόδειξις), proofs by *reductio ad impossibile*⁵ or indirect proofs (ἡ εἰς τὸ ἀδύνατον ἀπόδειξις) and proofs by ecthesis or setting-out (ἡ τῷ ἐκθέσθαι ἀπόδειξις). Deictic proofs are the ones in which conversion is used, proofs by *reductio ad impossibile* make use of a hypothesis and in proofs by ecthesis a general proposition is proved by means of a singular one.

In this paper, I intend to characterize proofs by *reductio ad impossibile* in Aristotle’s *Prior Analytics*, especially regarding what kinds of impossibility are suitable for such proofs to be carried out. The paper is divided in four sections. In the first section, some passages in which Aristotle describes *reductio ad impossibile* are analysed. In the second, scholars’ accounts of what kinds of impossibility are suitable for such proofs, divided in traditional and alternative interpretations, are examined. In the third, textual evidence against the traditional interpretation is presented. Finally, in the fourth section, a definition of proof by *reductio ad impossibile* deemed to be in accordance with Aristotle’s uses of it in the *Prior Analytics* is given and the alternative interpretation is argued for.

1 – Aristotle’s Statements on Reductio ad Impossibile

Let us start by examining passages in which Aristotle states what a proof by *reductio ad impossibile* is. He offers partial descriptions in various passages in the *Prior Analytics*. However, in *Prior Analytics* I 23 there is a passage in which he is fairly clear about it:

But it will be clear through these next considerations that this holds for deductions which lead into an impossibility as well. For all those which come to a conclusion through an impossibility

⁴ The notation used for representing Aristotle’s syllogistic is the standard one. Capital Roman letters stand for predicate variables, small Roman letters stand for a quantity and quality relation between predicates (“a” stands for universal affirmative predication and so on) (For further explanation, see Striker 2009, p. 67). Let “ \vdash_{syl} ” stand for “syllogistic entailment”. It should not be taken for granted that syllogistic entailment is the same as classical entailment, requiring only validity (see note 3).

⁵ Proofs by *reductio ad impossibile* have been given many names throughout the history of philosophy: *reductio ad impossibile*, *ad absurdum*, *per impossibile*, indirect proof, etc. I will be mainly using ‘proof by *reductio ad impossibile*’ in this paper.

deduce the falsehood, but *prove* the original thing from an assumption when something impossible results when its contradiction is supposed [...]. For this is what deducing through an impossibility was: proving something impossible by means of the initial assumption.⁶ (*APr* I 23, 41a22-32)⁷

Aristotle's goal in this passage does not seem to be (only) to characterize proofs by *reductio ad impossibile*, but to show how they differ from direct proofs. While in the latter what is syllogistically inferred (*συλλογίζονται*, the conclusion of a syllogistic mood) and what is proved (*δεικνύουσιν*, the conclusion of the proof) is the same, that clearly is not the case with proofs by *reductio ad impossibile*. According to the philosopher in the quoted passage, in these proofs, what is syllogistically inferred is a falsehood and what is proved is what was to be proved from the beginning. Given that what is proved, i.e., the conclusion of the proof, is true if the premises are true and what is syllogistically inferred, i.e., the conclusion of a syllogistic mood, is false, they cannot be the same proposition.

Nonetheless, by presenting this distinction, Aristotle describes the procedure of proofs by *reductio ad impossibile* fairly clearly. Summing up the passage, the proof consists in taking the contradictory of the proposition intended to be the conclusion of the proof as a hypothesis, syllogistically inferring something false or impossible from that hypothesis and thus prove that the intended proposition syllogistically follows from the premises because its contradictory following from them leads into an impossibility. Aristotle has left out only two points in the quoted passage: initially stating the premises of the syllogistic mood intended to be proved and stating that the premises for inferring (in a previously proved syllogistic mood) the impossibility must be the hypothesis (the contradictory of the intended conclusion) and one of the premises initially stated.

Therefore, combining these two remarks and what has been stated in the passage quoted above, a more detailed account of proofs by *reductio ad impossibile* can be given: first, the premises of the mood supposed to be proved are laid down. Second, the contradictory of the intended conclusion is assumed as a hypothesis. Third, the hypothesis and one of the premises from the first step are used for an inference in a previously proved

⁶ The quoted passages of Aristotle's *Prior Analytics* and *Topics* used in this paper are from Smith's translations and the corresponding Greek text is from Ross' edition. Ackrill's translation was used for *On Interpretation* passages and the corresponding Greek text is from Minio-Paluello's critical edition.

⁷ ὅτι δὲ καὶ οἱ εἰς τὸ ἀδύνατον, δῆλον ἔσται διὰ τούτων. πάντες γὰρ οἱ διὰ τοῦ ἀδυνάτου περαίνοντες τὸ μὲν ψεῦδος συλλογίζονται, τὸ δ' ἐξ ἀρχῆς ἐξ ὑποθέσεως δεικνύουσιν, ὅταν ἀδύνατόν τι συμβαίνει τῆς ἀντιφάσεως τεθείσης, [...] τοῦτο γὰρ ἦν τὸ διὰ τοῦ ἀδυνάτου συλλογίσασθαι, τὸ δεῖξαι τι ἀδύνατον διὰ τὴν ἐξ ἀρχῆς ὑπόθεσιν. (*APr* I 23, 41a22-32)

sylogistic mood. Next, the inconsistency between the conclusion inferred in the previous step and the other premise of the first step is stated, what makes holding the two of them an impossibility. Finally, since an impossibility follows from the assumed hypothesis, it is proved to be false and its contradictory, the intended conclusion, to be true (given the truth of the premises). Accordingly, it is proved that a certain conclusion follows from the premises laid down, which shows that these premises implying that conclusion constitutes a sylogistic mood. The structure of the proof can be written in the following way:

- 1 Premise 1 (*P1*).
- 2 Premise 2 (*P2*).
- 3 Hypothesis (*Hyp*).
- ⋮ Repetition of 1 or 2 for the sylogistic inference (if required).
- n* Conclusion of a sylogistic inference whose premises are 1 and 3 or 2 and 3 (in any order).
- n* + 1 Stating that *n* and 1 or *n* and 2 are inconsistent.
- n* + 2 Conclusion of the contradictory of 3, which is taken to be true because 3 is taken to be false due to *n* + 1.

The omitted passage in the text quoted above (41a22-32) is an example of a proof by *reductio ad impossibile*, which is useful to show what its procedure is:

<proving,> for example, that the diagonal is incommensurable because if it is put as commensurable, then odd numbers become equal to even ones. It *deduces* that odd numbers become equal to even ones, then, but it *proves* the diagonal to be incommensurable from an assumption since a falsehood results by means of its contradiction. (*APr* I 23, 41a26-30)⁸

The example shows that *reductio ad impossibile* is not a procedure created by Aristotle. Instead, the philosopher is using in his sylogistic a method of proof similar to one used elsewhere, judging from his example, in geometry⁹. Aristotle's example of proof by *reductio ad impossibile* is a proof of the incommensurability of the diagonal of a square with its sides. In this proof, there are no explicit premises from which the intended conclusion is supposed to follow. The intended conclusion is 'the diagonal is incommensurable' (short for 'the diagonal of a square is incommensurable with its sides'). Therefore, its contradictory ('the diagonal is not incommensurable' and therefore) 'the

⁸ οἷον ὅτι ἀσύμμετρος ἡ διάμετρος διὰ τὸ γίνεσθαι τὰ περιττὰ ἴσα τοῖς ἀρτίοις συμμέτρου τεθείσης. τὸ μὲν οὖν ἴσα γίνεσθαι τὰ περιττὰ τοῖς ἀρτίοις συλλογίζεται, τὸ δ' ἀσύμμετρον εἶναι τὴν διάμετρον ἐξ ὑποθέσεως δείκνυσιν, ἐπεὶ ψεῦδος συμβαίνει διὰ τὴν ἀντίφασιν. (*APr* I 23, 41a26-30)

⁹ According to scholars, proofs by *reductio ad impossibile* were commonly used in Greek mathematics (Smith 1989, p. 115; Striker 2009, p. 70).

diagonal is commensurable’ is assumed as a hypothesis. From the hypothesis, somehow the proposition ‘odd numbers are equal to even numbers’ is inferred, which is taken to be evidently false. As the hypothesis entails falsehood, its contradictory ‘the diagonal is incommensurable’ must be true.

In *Prior Analytics* I 23 (41a22-32), Aristotle states that it is the contradictory of the intended conclusion that must be assumed as a hypothesis. The same point is repeated in several other passages. An example is in chapter 11 of book II: “A deduction through an impossibility is proved when the contradictory of the conclusion is put as a premise and one of the premises <of the deduction> is taken in addition [...]” (*APr* II 11, 61a18-21)¹⁰. Another is in chapter 14 of book II, where Aristotle says that a proof by *reductio ad impossibile* “takes one of these premises and, as other premise, the contradictory of the conclusion” (*APr* II 14, 62b33-35)¹¹. Considering only these statements, it is not evident why it is the contradictory of the intended conclusion that must be assumed as a hypothesis, and not any other opposite of the intended conclusion.

In *Prior Analytics* II 11 (62a11-19), Aristotle recognises at least one other opposite of the intended conclusion as a candidate to be the hypothesis of a proof by *reductio ad impossibile*, namely, the contrary of the conclusion. However, Aristotle resolutely refuses the contrary of the intended conclusion as a suitable hypothesis. Before examining his reasons for doing so, it is useful to go back to *On Interpretation* and review what contradiction and contrariety are. In *On Interpretation* 7, Aristotle states: “I call an affirmation and a negation *contradictory* opposites when what one signifies universally the other signifies not universally, e.g., ‘every man is white’ and ‘not every man is white’, ‘no man is white’ and ‘some man is white’.” (*DI* 7, 17b16-20)¹². Regarding the truth-value of contradictory propositions, Aristotle points out that one must be true and the other must be false: “Of contradictory statements about a universal taken universally it is

¹⁰ ὁ δὲ διὰ τοῦ ἀδυνάτου συλλογισμὸς δείκνυται μὲν ὅταν ἡ ἀντίφασις τεθῇ τοῦ συμπεράσματος καὶ προσληφθῇ ἄλλη πρότασις [...]. (*APr* II 11, 61a18-21)

¹¹ ἡ δὲ μίαν μὲν τούτων, μίαν δὲ τὴν ἀντίφασιν τοῦ συμπεράσματος. (*APr* II 14, 62b33-35)

¹²

Ἀντικειῖσθαι μὲν οὖν κατάφασιν ἀποφάσει λέγω ἀντιφατικῶς τὴν τὸ καθόλου σημαίνουσαν τῷ αὐτῷ ὅτι

οὐ καθόλου, οἷον πᾶς ἄνθρωπος λευκός – οὐ πᾶς ἄνθρωπος λευκός, οὐδεὶς ἄνθρωπος λευκός – ἔστι τις ἄνθρωπος λευκός. (*DI* 7, 17b16-20)

necessary for one or the other to be true or false.” (*DI* 7, 17b26-27)¹³. Concerning contrary propositions, in *On Interpretation* 7 Aristotle writes: “But I call the universal affirmation and the universal negation contrary opposites, e.g. ‘every man is just’ and ‘no man is just’. So these cannot be true together” (*DI* 7, 17b20-23)¹⁴. Thus, summing up the information obtained from *On Interpretation* 7, *AaB* (universal affirmation) and *AoB* (particular negation) as well as *AeB* (universal negation) and *AiB* (particular affirmation) are contradictory propositions. Of these pairs, one proposition must be true and the other false. On the other hand, *AaB* (universal affirmation) and *AeB* (universal negation) are contrary propositions. These cannot be both true, which leaves as possibilities that one of them be true and the other false or that they be both false.

Having stated what contradictory and contrary propositions are, let us examine *Prior Analytics* II 11 (62a11-19). In chapter 11 of book II, Aristotle explains why it is the contradictory of the intended conclusion that must be assumed as a hypothesis and why it cannot be its contrary:

It is evident, then, that it is the opposite, not the contrary, which must be assumed in all of the deductions. For in this way there will be a necessary result, and also the claim will be accepted. For if either the assertion or the denial is true of everything, then when it has been proved that the denial is not true, it is necessary for the affirmation to be true. Moreover, if someone does not put the affirmation to be true, then it is accepted to claim the denial. To claim the contrary, however, is not suitable in either way (for neither is it necessary for 'belongs to every' to be true if 'belongs to none' is false, nor is it accepted that if the one is false then the other is true). (*APr* II 11, 62a11-19)¹⁵

Proofs by *reductio ad impossibile* have the following proof strategy: proving the intended conclusion by proving that the hypothesis is false because it leads into an impossibility. In the quoted text, Aristotle gives two reasons why the hypothesis must be the contradictory and not the contrary of the intended conclusion. He describes such reasons in the following way: “For in this way there will be a necessary result, and also

¹³ ὅσαι μὲν οὖν ἀντιφάσεις τῶν καθόλου εἰσὶ καθόλου, ἀνάγκη τὴν ἑτέραν ἀληθεῖ εἶναι ἢ ψευδεῖ. (*DI* 7, 17b26-27)

¹⁴ ἐναντίως δὲ τὴν τοῦ καθόλου κατάφασιν καὶ τὴν τοῦ καθόλου ἀπόφασιν, οἷον πᾶς ἄνθρωπος δίκαιος – οὐδεὶς ἄνθρωπος δίκαιος· διὸ ταύτας μὲν οὐχ οἶόν τε ἅμα ἀληθεῖς εἶναι (*DI* 7, 17b20-23)

¹⁵ Φανερόν οὖν ὅτι οὐ τὸ ἐναντίον ἀλλὰ τὸ ἀντικείμενον ὑποθετέον ἐν ἅπασιν τοῖς συλλογισμοῖς. οὕτω γὰρ τὸ τε ἀναγκαῖον ἔσται καὶ τὸ ἀξίωμα ἔνδοξον. εἰ γὰρ κατὰ παντὸς ἡ φάσις ἢ ἡ ἀπόφασις, δειχθέντος ὅτι οὐχ ἡ ἀπόφασις, ἀνάγκη τὴν κατάφασιν ἀληθεύεσθαι. πάλιν εἰ μὴ τίθησιν ἀληθεύεσθαι τὴν κατάφασιν, ἔνδοξον τὸ ἀξιῶσαι τὴν ἀπόφασιν. τὸ δ' ἐναντίον οὐδετέρως ἀρμόττει ἀξιοῦν· οὔτε γὰρ ἀναγκαῖον, εἰ τὸ μηδενὶ ψεῦδος, τὸ παντὶ ἀληθές, οὔτ' ἔνδοξον ὥς εἰ θάτερον ψεῦδος, ὅτι θάτερον ἀληθές. (*APr* II 11, 62a11-19)

the claim will be accepted” (*APr* II 11, 62a12-13)¹⁶. The first reason, described as a ‘necessary result’, I will call ‘logical reason’. It seems to be related to how truth-values are distributed in different pairs of opposite propositions. The second reason, described as ‘the claim will be accepted’, I will call ‘dialectical reason’. This one seems to be related to what is convincing in a dialectical debate.

Starting with the logical reason, as it has been stated, proofs by *reductio ad impossibile* prove the intended conclusion by proving that the hypothesis is false because it leads into an impossibility. Moreover, according to *On Interpretation* 7, of contradictory propositions, it is necessary that one be true and the other be false (17b26-27). Therefore, if the hypothesis of a *reductio ad impossibile* is the contradictory of the intended conclusion, by proving that the hypothesis is false, one has also proved that its contradictory is true, for if one proposition is false, its contradictory is true. Thus, one has obtained the intended conclusion. Aristotle’s logical reason in the quoted passage of *Prior Analytics* II 11 for refusing contrary pairs of propositions for playing the roles of hypothesis and intended conclusion is that the proof strategy that works with contradictory propositions does not work with contrary ones. According to *On Interpretation* 7, contrary propositions cannot be both true simultaneously (17b20-23). Accordingly, if one proposition is true, then its contrary is false. However, nothing prevents both of them from being false. Consequently, by using contrary propositions for the roles mentioned, proofs by *reductio ad impossibile* cannot be carried out in the same way as before. For, if the hypothesis is the contrary of the intended conclusion, then proving that the hypothesis is false because it leads into an impossibility does not prove that its contrary is true nor false, because all that is necessary regarding the truth-values of contrary propositions is that they not be both true.

In *Prior Analytics* II 11 (62a11-19), Aristotle also gives a second reason for taking the contradictory of the intended conclusion as a hypothesis instead of its contrary, namely, the dialectical reason. The connection of this claim in *Prior Analytics* II 11 to Aristotle’s dialectic is made clear by his use of the term ‘ἐνδοξον’ (‘accepted’)¹⁷. In *Topics* I 1, Aristotle describes ‘ἐνδοξον’ as the following: “[that] which seem[s] so to everyone, or to most people, or to the wise – to all of them, or to most, or to the most

¹⁶ οὕτω γὰρ τό τε ἀναγκαῖον ἔσται καὶ τὸ ἀξίωμα ἐνδοξον. (*APr* II 11, 62a12-13)

¹⁷ Smith (1989, p. 200) points out the relation between the use of ἐνδοξον in this passage and in Aristotle’s *Topics*.

famous and esteemed.” (*Top* I 1, 100b21-23)¹⁸. In the passage of the *Prior Analytics* under discussion, Aristotle argues that if the hypothesis is proved to be false, then it is acceptable to claim that its contradictory is true. Nonetheless, the same is not the case if the hypothesis is the contrary of the intended conclusion. Aristotle argues that in this case, if the hypothesis is proved to be false, it is not acceptable (to people or to most or some of them, according to the specifications in *Topics* I 1, 100b21-23) to infer that its contrary is true.

Regarding a last aspect of proofs by *reductio ad impossibile*, namely, the impossibility that the hypothesis is supposed to entail, Aristotle does not explain what it is in detail. The philosopher calls it both false (*ψευδός*, *APr* I 23, 41a24, II 14, 62b31) and impossible (*ἀδύνατόν τι*, *APr* I 23, 41a25, 31-32), but he does not discuss in detail what kinds of impossibility or falsehood he is referring to. In the next section, some scholars’ interpretations of proofs by *reductio ad impossibile* will be presented, with special interest on their accounts of what this impossibility is.

2 – Scholars’ Accounts of Reductio ad Impossibile

The accounts of scholars who try to explain what Aristotle means by ‘impossibility’ in proofs by *reductio ad impossibile* in the *Prior Analytics* can be divided in two groups. The first group suggests it is a contradiction, i.e., the truth of two contradictory propositions. The second group suggests it is either a contrariety, i.e., the truth of two contrary propositions, or a contradiction. Some of the texts of scholars included in each of these groups will be examined in more detail in what follows, as paradigms of the interpretations of each group.

The first group of scholars take the impossibility in proofs by *reductio ad impossibile* to be a contradiction, i.e., the truth of two contradictory propositions. Therefore, in their account, the syllogism in a *reductio ad impossibile* must yield a proposition that holds a relation of contradiction to one of the premises. This interpretation is called by Patzig ‘the traditional interpretation’: “the ‘impossible’ to which reduction, on the traditional interpretation, leads, is meant to be [...], not a simple *falsehood*, but a *contradiction* between the second premiss of the original syllogism and

¹⁸ [ἔνδοξα δὲ] τὰ δοκοῦντα πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς σοφοῖς, καὶ τούτοις ἢ πᾶσιν ἢ τοῖς πλείστοις ἢ τοῖς μάλιστα γνωρίμοις καὶ ἐνδόξοις. (*Top* I 1, 100b21-23)

the proposition which, as described, is yielded by *Barbara*.” (1968, p. 148). In this passage, Patzig is making a point about the traditional interpretation of the proof of *Baroco* in *Prior Analytics* I 5. However, this point can be generalized to provide an accurate description of the interpretation of the first group or ‘traditional interpretation’ of proofs by *reductio ad impossibile*. Thus, generalizing Patzig’s statement, for the traditional interpretation, the impossibility to which reduction leads is meant to be not a simple falsehood, but a contradiction between a premise of the original syllogism and the proposition that is yielded by the syllogistic mood used in the proof. The group of scholars who subscribe to this traditional view includes Günther Patzig, John Corcoran, Timothy Smiley, Gisela Striker, Paolo Crivelli, Mateus Ferreira, Jan von Plato and Roy Dyckhoff. Their interpretations of the proofs under discussion will be analysed in what follows.

Günther Patzig, in his *Aristotle’s Theory of the Syllogism*, expresses *reductio ad impossibile* through the propositional law “If from p and the negation of r , $\sim q$ follows, then r follows from (p and q). In symbols: (1) $[(p \& \sim r) \rightarrow \sim q] \rightarrow [(p \& q) \rightarrow r]$ ” (Patzig 1968, p. 151). In this schema, ‘ $\sim q$ ’ is the impossibility entailed by the hypothesis ‘ $\sim r$ ’. ‘ $\sim q$ ’ is an impossibility because it is the negation of the premise ‘ q ’. Given that this premise is assumed to be true, denying it is an impossibility, for it is contradictory to both affirm and deny q . Impossibility is expressed by Patzig in terms of contradiction, for, given the propositional law he chose to express proofs by *reductio ad impossibile*, the only kind of impossibility possible for these proofs is contradiction, since ‘impossibility’ is expressed in terms of affirming and denying the same proposition, i.e., q and $\sim q$.

John Corcoran, in his *Aristotle’s Natural Deduction System*, as well as in his *Completeness of an Ancient Logic* and *A Mathematical Model of Aristotle’s Syllogistic*, gives the following definition of indirect deduction:

An indirect deduction in D of c from P is a finite list of sentences ending in a contradictory pair, beginning with a list of all or some of the sentences in P followed by the contradictory of c , and such that each subsequent additional line (after the contradictory of c) is either (a) a repetition of a previous line, (b) a D-conversion of a previous line or (c) a D-inference from two previous lines. (Corcoran 1973, p. 206; 1974, pp. 109-10; similar version in 1972, pp. 697-8)

The author explains the definition in ordinary language in 1972 as below:

An indirect deduction, on the other hand, does not contain its conclusion but rather it is, in effect, a direct deduction containing the contradictory of the conclusion as an added assumption and having a pair of contradictories for its last two lines. For Aristotle, an indirect proof of a

conclusion from premises was obtained by deducing contradictory sentences from the premises together with the contradictory of the conclusion [...]. (Corcoran 1972, p. 697)

In addition, in 1973 and 1974, he gives a similar explanation:

In constructing an indirect deduction of a conclusion from premises one adds to the premises, as an additional hypothesis, the contradictory of the conclusion; then one interpolates new sentences as above until both of a pair of contradictory sentences have been reached. (Corcoran 1973, p. 205; 1974, p. 109)

A similar point is made in the ‘*reductio* law’, the semantic counterpart of the presented syntactic definition of indirect deduction: “Reductio Law: (R) $P \models d$ if $P + C(d) \models s$ and $P + C(d) \models C(s)$ ” (Corcoran 1974, p. 106; similar version in 1972, p. 687), which he explains as “[t]he *reductio* law says that for d to follow from P it is sufficient that P and the contradiction of d together imply both a sentence s and its contradictory $C(s)$.” (Corcoran 1974, p. 106). The same view is kept in later writings, such as his 2009 *Aristotle’s Demonstrative Logic*:

The picture for an *indirect* deduction, or *reductio-ad-impossibile*, resembles but is significantly different from that for a direct deduction. Indirect demonstrations are called *proofs by contradiction*. In such a deduction, after the premises have been assumed and the conclusion has been set as a goal, the contradictory opposite of the conclusion is assumed as an *auxiliary* premise. Then, a series of intermediate conclusions are deduced until one is reached which oppositely contradicts a previous proposition. (Corcoran 2009, pp. 9-10)

In all the above passages, Corcoran clearly exposes his interpretation according to which a proof by *reductio ad impossibile* requires a pair of contradictory sentences to be entailed by the hypothesis and the initial premises for the proof to be carried out.

Timothy Smiley, in his *What Is a Syllogism?*, ascribes the form “ P , suppose not R , then not Q , so R ” (1973, p. 136) to proofs by *reductio ad impossibile* and defines them as:

DEFINITION 1. (i) $\langle Q \rangle$ is a deduction of Q from itself. (ii) If, for each i , $\langle \dots P_i \rangle$ is a deduction of P_i , from X_i , and if Q follows from P_1, \dots, P_n by a rule of inference, then $\langle \dots P_1, \dots, P_n, Q \rangle$ is a deduction of Q from X_1, \dots, X_n . (iii) If $\langle \dots P \rangle$ is a deduction of P from X_1, \bar{Q} , and $\langle \dots \bar{P} \rangle$ is a deduction of \bar{P} from X_2 , then $\langle \dots P, \dots \bar{P}, Q \rangle$ is a deduction of Q from X_1, X_2 . [...] The third clause is intended to accommodate *reductio ad impossibile* arguments. (Smiley 1973, pp. 141-2)

Smiley, as the authors above, defines *reductio ad impossibile* in propositional language. The impossibility in the proof is represented by $\langle \dots P, \dots \bar{P} \rangle$, a propositional expression for contradiction. When setting out the system that is supposed to include

proofs by *reductio ad impossibile* in page 141, Smiley does not even define contrariety, but only contradiction. These evidences make clear that, according to Smiley's interpretation, contradiction alone can be the kind of impossibility entailed by the hypothesis for proofs by *reductio ad impossibile* to be carried out.

Gisela Striker, in the introduction of her translation and commentary on book I of the *Prior Analytics*, provides the following description of proofs by *reductio ad impossibile*:

Indirect proofs were well known from mathematics, and this may explain why Aristotle never explicitly formulates a corresponding rule. It might be stated as follows:

If an assumption used in a deduction leads to a contradiction, then the assumption is false and its contradictory must be true.

The typical case of a reductio-proof in chapters 5 and 6 is very simple: given the two premisses of a syllogistic mood, one adds the contradictory of the expected conclusion as a hypothesis and then derives the contradictory of one of the premisses from the hypothesis together with the other premiss. Obviously, the two premisses are supposed to be true, so that the contradiction can only be due to the hypothesis. (Striker 2009, p. 70)

Striker too thinks that the hypothesis must lead to a contradiction for a proof by *reductio ad impossibile* to be carried out. The contradiction holds between the conclusion of a syllogism that has the hypothesis and one of the premisses of the syllogistic mood as its premisses and the other premiss of the syllogistic mood.

Paolo Crivelli, in his *Aristotle's Logic*, gives the following definition of *reductio ad impossibile*: "PI [*per impossibile*] If from certain premisses a certain conclusion is inferred, then any contradictory of any of those premisses may be inferred from the result of replacing that premise with any contradictory or contrary of that conclusion." (Crivelli 2012). In *Prior Analytics* II 11 (62a11-19), Aristotle shows that not the contrary but only the contradictory of the conclusion can be assumed as a hypothesis (the premise replaced, in Crivelli's definition), as it has been discussed in section 1. By stating in his definition that the contradictory of one of the premisses is what is attained in a proof by *reductio ad impossibile*, Crivelli assumes the thesis endorsed by the first group.

Mateus Ferreira, in section 6 of his *O que são silogismos perfeitos?*, presents a natural deduction system for Aristotle's syllogistic. Among the rules of the system, Ferreira introduces one called 'rule for indirect proof', which is the following: "RA (Reduction to the absurd). α ; if $\neg\beta$, then $\neg\alpha$; then, β ."¹⁹ (Ferreira 2013, p. 213, my translation). According to RA, the impossibility that the hypothesis must entail for the

¹⁹ 'RA (redução ao absurdo). α ; se $\neg\beta$, então $\neg\alpha$; então, β .' (Ferreira 2013, p. 213)

proof to be carried out is a contradiction, composed of a premise and a proposition obtained from the hypothesis. As it has been said above, that is the traditional interpretation.

Jan von Plato, in his *The Great Formal Machinery Works: Theories of Deduction and Computation at the Origins of the Digital Age*, as well in his *Elements of Logical Reasoning and Aristotle's deductive logic: A proof-theoretical study*, gives the following description of proofs by *reductio ad impossibile*:

(B) THE PRINCIPLE OF INDIRECT PROOF. The two pairs *Every A is B*, *Some A is not-B* and *No A is B*, *Some A is B* form between themselves contradictory opposites. Furthermore, because from *No A is B* the weaker *Some A is not-B* follows, also *Every A is B* and *No A is B* together lead to a contradictory pair. We indicate the contradictory opposite of a proposition *P* by the orthogonality symbol, P^\perp . (Note that $P^{\perp\perp}$ is identical to *P*.) In general, if an assumption *P* has led to contradictory consequences *Q* and Q^\perp , P^\perp can be concluded and the assumption *P* closed. [...] A rule of indirect proof in which the premisses of RAA [*reductio ad absurdum*] are *Every A is B* and its contrary *No A is B* can be derived from the second of the following conversion rules $\left[\frac{\text{Every } A \text{ is } B}{\text{Some } B \text{ is } A} \right]$. (von Plato 2017, pp. 9-10, a similar version in 2013, pp. 222-3 and 2016, pp. 328-9)

The most relevant point for this discussion in von Plato's description is that he reduces contrariety to contradiction. Given that e-propositions imply o-propositions, then a-propositions and e-propositions are incompatible because a-propositions and o-propositions are incompatible. Moreover, given that, from conversion, a-propositions imply i-propositions, then the incompatibility of a-propositions and e-propositions can be reduced to the incompatibility between e-proposition and i-propositions. Thus, the incompatibility between a-propositions and e-propositions is reduced to the one between a-propositions and o-propositions or the one between e-proposition and i-propositions. Therefore, *stricto sensu*, von Plato's conception of proofs by *reductio ad impossibile* admits only contradictions as the impossibility derived in these proofs, for contrariety is reduced to contradiction.

Roy Dyckhoff, in the syllogistic system he defines in his *Indirect Proof and Inversion of syllogisms*, suggests the following rule to play the role of indirect proofs (IP):

IP: If we have deduced *B* from A^* and also have deduced B^* , then we may combine the two deductions, remove (i.e., discharge) the single assumption of A^* and thus form a deduction of *A* (from the multiset sum of the two multisets of undischarged assumptions). (Dyckhoff 2019, p. 198)

In Dyckhoff's notation, ' A^* ' stands for 'the contradictory of *A*'. Therefore, in his interpretation, proofs by *reductio ad impossibile* include only cases in which

contradictory propositions (B and B^* in the quoted passage) are entailed by the hypothesis (A^*), which is the traditional interpretation.

The second group of scholars presents an alternative interpretation of the impossibility in proofs by *reductio ad impossibile*, taking it to be either a contrariety, i.e., the truth of two contrary propositions, or a contradiction. Thus, according to them, the syllogism in a *reductio ad impossibile* yields a proposition that holds a relation of either contrariety or contradiction to one of the premises. This group of scholars includes William of Ockham, Robin Smith, Marko Malink and Stephen Read. Their accounts will be exposed in what follows.

William of Ockham, in his exposition of Aristotle's *Prior Analytics* in *Summa Logicae* III-1, gives the following account of proofs by *reductio ad impossibile* in the second figure:

Therefore every syllogism in the second figure is reduced to the syllogisms in the first figure, namely [to those] in the first two moods, always asserting from the major as the prior [proposition] and the contrary or the contradictory of the conclusion [as the posterior], inferring the contrary or the contradictory of the minor, always in virtue of the rule 'if [a proposition] incompatible with the conclusion does not stand with the antecedent, then the first consequence is sound.'²⁰ (Ockham, *Summa Logicae* III-1 11, 50-55, my translation)²¹

In this passage, Ockham refers to the use of proofs by *reductio ad impossibile* to reduce the syllogistic moods in the second figure to those in the first one. According to him, in such proofs either the contrary or the contradictory of the minor premise is attained from the major premise and the contrary or the contradictory of the intended conclusion. Ockham allows *reductio* proofs to take either the contrary or the contradictory of the conclusion as a hypothesis, which Aristotle clearly argues against in *Prior Analytics* II 11, as it has been discussed in section 1. On the other hand, allowing proofs by *reductio ad impossibile* to have either contrariety or contradiction as the impossibility entailed by the hypothesis includes Ockham in the second group of scholars announced above.

Robin Smith, in the introduction of his translation and commentary on the *Prior Analytics*, presents the following structure for proofs by *reductio ad impossibile*:

²⁰ The Latin text for this passage of William of Ockham's *Summa Logicae* is from Boehner's (et al.) edition.

²¹ Sic igitur omnis syllogismus secundae figurae reducitur in syllogismos primae figurae, scilicet in duos primos modos, arguendo semper ex maiore qua prius et contraria vel contradictoria conclusionis, inferendo contrariam vel contradictoriam minoris, semper virtute istius regulae 'repugnans conclusionis non stat cum antecedente, igitur prima consequentia bona'. (Ockham, *Summa Logicae* III-1 11, 50-55)

A deduction through impossibility has the following structure (for 'the contradictory of s ' I write 'Cont(s)':

Premise 1

Premise 2

Cont(Conclusion)

Step 1

...

Step n = Cont(Premise 1) or Cont(Premise 2) (Smith 1989, p. XXI)

According to Smith, the last step of the proof consists in inferring from the hypothesis and one of the premises the contradictory either of the first or of the second premise. Therefore, the impossibility to which the hypothesis leads is a contradiction between the first premise or the second premise and the conclusion of the syllogism whose premises are either the first premise or the second premise and the hypothesis. This account alone would include Smith in the group of scholars who adopt the traditional interpretation. However, in his later writing *Logic*, Smith seems to change his account:

Sometimes, Aristotle must use another pattern of proof, namely *completion through impossibility*. He adds the denial of the desired conclusion to the premises and, from this and one of the original premises, deduces the contradictory [or contrary] of the other premise. This shows that the original premises and the denial of the conclusion cannot all be true; therefore, if the premises are true then the denial of the conclusion must be false [i.e. the conclusion must be true]. (Smith 1995, pp. 38-9)

Although the concession is made within brackets, Smith allows that the contradictory or the contrary of one of the premises be suitable as an impossibility for proofs by *reductio ad impossibile*, which includes him in the second group of scholars.

Marko Malink, in his *Aristotle's Modal Syllogistic*, gives the following description of *reductio ad impossibile*:

Aristotle does not explicitly formulate a rule for indirect deductions. It is, however, clear that indirect deductions involve a step of assuming for *reductio* the contradictory of the intended conclusion. Aristotle determines the contradictories of assertoric propositions as follows:

$AaxB$ is the contradictory of $AoxB$, and vice versa

$AexB$ is the contradictory of $AixB$, and vice versa

Moreover, in some of his indirect deductions, Aristotle avails himself of the following principle concerning the incompatibility of ax – and ex – propositions:

$AaxB$ is incompatible with $AexB$, and vice versa

Given these principles of contradictoriness and incompatibility, Aristotle's method of indirect deduction can be described as follows. First some premises are assumed. Then the contradictory of the intended conclusion is assumed for a *reductio* as an additional premise. Based on the resulting extended set of premises, we begin to construct a direct deduction. We try to go on until the direct deduction contains two propositions that are contradictory to or incompatible with each other. If successful, we have given an indirect deduction of the intended conclusion from the original premises. (Malink 2013, p. 31-2)

Malink's account of *reductio ad impossibile* is more inclusive, if compared to the accounts of the scholars who endorse the traditional interpretation. He affirms that the impossibility that the premises together with the *reductio* hypothesis entail can be either a pair of contradictory or incompatible propositions. 'Incompatible' is not the best term choice, for both contradictory and contrary propositions are incompatible. Based on his formulation of a principle to express incompatibility using a-propositions and e-propositions, he probably means contrary propositions. Thus, his account of *reductio ad impossibile* is that the impossibility that the premises together with the *reductio* hypothesis entail can be either a pair of contradictory or contrary propositions, which is the alternative interpretation of proofs by *reductio ad impossibile*.

Stephen Read, in his *Aristotle's Theory of the Assertoric Syllogism*, gives the same account: "Note that the subproof in a *reductio* proof need only conclude in contraries (though often, as above, they are in fact contradictories). But the assumption for *reductio* must, of course, be the contradictory of the ultimate conclusion to be proved." (Read 2017, p. 10). In a short but accurate formulation, Read asserts that both contrary and contradictory propositions are suitable as what is entailed by the hypothesis and one of the premises in a proof by *reductio ad impossibile*, although in most cases it is contradictory propositions. That is, as stated above, the view of the second group.

What is the precise account of impossibility in proofs by *reductio ad impossibile* is clearly controversial, since some scholars allow only contradiction as suitable, whereas others allow both contradiction and contrariety. Scholars seem not to have discussed such controversy, nor do they argue for the definitions or descriptions of *reductio ad impossibile* they set forth, making it seem that the point in question is well established. However, as it has been shown in this section, there is disagreement between two positions, which I named traditional and alternative interpretations. The disagreement lies in what kinds of impossibility should be included in the definition of *reductio ad impossibile* as a suitable impossibility for such proofs to be carried out. More precisely, the disagreement lies in whether or not to include contrariety as an impossibility suitable for the purpose in question. In the next section, I will present some textual evidence in the *Prior Analytics* that proves the traditional interpretation to be too restricted and the alternative interpretation to be the appropriate one.

3 – Some Proofs by Reductio ad Impossibile in *Prior Analytics I* 5-7

In this section, I will present Aristotle's proof that *Baroco* is a syllogistic mood using *reductio ad impossibile* in chapter 5 of book I, which is the first proof by *reductio ad impossibile* presented in the *Prior Analytics*. This proof of *Baroco* is a paradigm of what most scholars consider a proof by *reductio ad impossibile* in the *Prior Analytics* to be. It should be noticed that the impossibility to which this proof leads is the truth of contradictory propositions. Following that, most scholars define proofs by *reductio ad impossibile* as requiring a contradiction as the impossibility led into by the hypothesis, as it has been shown to be the account of scholars who subscribe to the traditional interpretation in section two. Against those accounts, and in favour of the alternative interpretation, I will present two proofs by *reductio ad impossibile* in which the impossibility that follows from the hypothesis is not the truth two of contradictory propositions, but of two contrary ones.

Let us start with the paradigm of proofs by *reductio ad impossibile*. In *Prior Analytics I* 5, Aristotle proves that *Baroco* is a syllogistic mood using *reductio ad impossibile*:

Next, if M belongs to every N but does not belong to some X, it is necessary for N not to belong to some X. (For if it belongs to every X and M is also predicated of every N, then it is necessary for M to belong to every X: but it was assumed not to belong to some.) (*APr I* 5, 27a36-b1)²²

For this proof, *MaN* and *MoX* are assumed as premises and *NaX*, the contradictory of the expected conclusion *NoX*, as a hypothesis. Then, *MaX* is obtained by applying *Barbara* to the first premise, *MaN*, and to the hypothesis, *NaX*. *MaX*, the obtained result, and *MoX*, the second premise, are contradictory propositions. Thus, the assumption of the truth of both constitutes an inconsistency in the proof. That entails that the assumed hypothesis is false. Therefore, its contradictory, *NoX*, must be true. The expected conclusion is attained and *Baroco* is proved to be a syllogistic mood. The proof can be represented as follows:

²² πάλιν εἰ τῷ μὲν N παντὶ τὸ M, τῷ δὲ Ξ τινὶ μὴ ὑπάρχει, ἀνάγκη τὸ N τινὶ τῷ Ξ μὴ ὑπάρχειν· εἰ γὰρ παντὶ ὑπάρχει, κατηγορεῖται δὲ καὶ τὸ M παντὸς τοῦ N, ἀνάγκη τὸ M παντὶ τῷ Ξ ὑπάρχειν· ὑπέκειτο δὲ τινὶ μὴ ὑπάρχειν. (*APr I* 5, 27a36-b1)

1	<i>MaN</i>	<i>Pr</i> ²³
2	<i>MoX</i>	<i>Pr</i>
3	<i>NaX</i>	<i>Hyp</i>
4	<i>MaX</i>	<i>Bar</i> , 1,3
5	<i>MaX – MoX</i>	<i>I2</i> ,2,4 3,5
6	<i>NoX</i>	

Let us now proceed to two proofs by *reductio ad impossibile* in which the impossibility entailed by the hypothesis is not contradiction, but contrariety. In *Prior Analytics* I 7, Aristotle gives a proof by *reductio ad impossibile* that *Darapti* is a syllogistic mood, which he had already proved by conversion and by exposition in chapter 6:

As, for instance, it is proved in the last figure that if both A and B belong to every C, then A will belong to some B: for if it belongs to none and B to every C, then A will belong to no C: but it belonged to every C. (*APr* I 7, 29a36-39)²⁴

For this proof, *AaC* and *BaC* are assumed as premises and *AeB*, the contradictory of the expected conclusion *AiB*, as a hypothesis. Then, *AeC* is obtained by applying *Celarent* to the hypothesis, *AeB*, and to the second premise, *BaC*. *AaC*, the first premise, and *AeC*, the obtained conclusion, are contraries. Thus, the assumption of the truth of both constitutes an inconsistency in the proof. That entails that the assumed hypothesis is false. Therefore, its contradictory, *AiB*, must be true. The expected conclusion is attained and *Darapti* is proved to be a syllogistic mood. The proof can be represented as follows:

1	<i>AaC</i>	<i>Pr</i>
2	<i>BaC</i>	<i>Pr</i>
3	<i>AeB</i>	<i>Hyp</i>
4	<i>BaC</i>	<i>Rep</i> ²⁵ , 2
5	<i>AeC</i>	<i>Cel</i> , 3,4
6	<i>AaC – AeC</i>	<i>I1</i> ,1,5 3,6
7	<i>AiB</i>	

²³ In the proofs, let '*Pr*' stand for 'premise', '*Hyp*' for 'hypothesis', '*Bar*' for '*Barbara*' and '*I2*' for 'contradiction'.

²⁴ οἷον ἐν τῷ τελευταίῳ σχήματι, εἰ τὸ Α καὶ τὸ Β παντὶ τῷ Γ ὑπάρχει, ὅτι τὸ Α τινὶ τῷ Β ὑπάρχει· εἰ γὰρ μηδενί, τὸ δὲ Β παντὶ τῷ Γ, οὐδενὶ τῷ Γ τὸ Α· ἀλλ' ἦν παντί. (*APr* I 7, 29a36-39)

²⁵ In the proofs, let '*Rep*' stand for 'repetition', '*Cel*' for '*Celarent*' and '*I1*' for 'contrariety'.

In *Prior Analytics* I 6, Aristotle states that *Felapton* can be proved to be a syllogistic mood by *reductio ad impossibile*. There he gives the proof by conversion, but not the one by *reductio ad impossibile*:

And if R belongs to every S but P to none, then there will be a deduction that P of necessity does not belong to some R (for the manner of demonstration is the same if premise RS is converted, and it could also be proved through an impossibility as in the previous cases). (*APr* I 6, 28a26-30)²⁶

Although Aristotle did not construct this proof himself, I will present it below. For a proof of *Felapton* in the first figure, *PeS* and *RaS* are assumed as premises and *PaR*, the contradictory of the expected conclusion *PoR*, as a hypothesis. Then, *PaS* is obtained by applying *Barbara* to the hypothesis, *PaR*, and to the second premise, *RaS*. *PeS*, the first premise, and *PaS*, the obtained conclusion, are contrary propositions. Thus, the assumption of the truth of both constitutes an inconsistency in the proof. That entails that the assumed hypothesis is false. Therefore, its contradictory, *PoR*, must be true. The expected conclusion is attained and *Felapton* is proved to be a syllogistic mood. The proof can be represented as follows:

1	<i>PeS</i>	<i>Pr</i>
2	<i>RaS</i>	<i>Pr</i>
3	<i>PaR</i>	<i>Hyp</i>
4	<i>RaS</i>	<i>Rep, 2</i>
5	<i>PaS</i>	<i>Bar, 3,4</i>
6	<i>PaS – PeS</i>	<i>I1,1,5</i>
7	<i>PoR</i>	<i>3,6</i>

The proofs by *reductio ad impossibile* given by Aristotle of *Baroco* in *Prior Analytics* I 5 and of *Darapti* in *Prior Analytics* I 7 have been presented and the one of *Felapton* in *Prior Analytics* I 6 not given by Aristotle has been constructed. It has been shown that the proofs by *reductio ad impossibile* that *Darapti* and *Felapton* are syllogistic moods have the truth of two contrary propositions as the impossibility entailed by the hypothesis. Therefore, these two cases are evidence for the acceptance of contrariety as a suitable kind of impossibility in proofs by *reductio ad impossibile* in the *Prior Analytics*,

²⁶ καὶ ἂν τὸ μὲν P παντὶ τῷ Σ, τὸ δὲ Π μηδενὶ ὑπάρχῃ, ἔσται συλλογισμὸς ὅτι τὸ Π τινὶ τῷ P οὐκ ὑπάρξει ἐξ ἀνάγκης· ὁ γὰρ αὐτὸς τρόπος τῆς ἀποδείξεως ἀντιστραφείσης τῆς P Σ προτάσεως. δειχθεῖν δ' ἂν καὶ διὰ τοῦ ἀδυνάτου, καθάπερ ἐπὶ τῶν πρότερον. (*APr* I 6, 28a26-30)

against the traditional interpretation of Aristotle's account of *reductio ad impossibile* and in accordance with the alternative one.

4 – A Definition of Proof by Reductio ad Impossibile

Let the following be a description of what a proof by *reductio ad impossibile* is according to the passages examined in section 1.

(I) Proof by *reductio ad impossibile*. A finite sequence of propositions is a proof by *reductio ad impossibile* in Aristotle's syllogistic if and only if every proposition in it is either (i) a premise, (ii) a hypothesis, (iii) the repetition of a premise, (iv) the conclusion of a syllogistic inference from (i) and (ii) or (ii) and (iii), (v) the statement of an inconsistency in (i) and (iv), or (vi) the statement of the contradictory of (ii) due to (v).²⁷

The following is a schema of (I):

- 1 Premise 1 (*P1*) (i).
- 2 Premise 2 (*P2*) (i).
- 3 Hypothesis (*Hyp*) (ii).
- ⋮ Repetition of 1 or 2 for the syllogistic inference (if required) (iii).
- n* Conclusion of a syllogistic inference whose premises are 1 and 3 or 2 and 3 (in any order) (iv).
- n* + 1 Stating that *n* and 1 or *n* and 2 are inconsistent (v).
- n* + 2 Conclusion of the contradictory of 3, which is taken to be true because 3 is taken to be false due to *n* + 1 (vi).

As it has been argued in section 1, Aristotle does not state what kinds of inconsistency are suitable for (v), for he describes such inconsistencies merely as impossible and false. This way, it falls to the reader of Aristotle's text to infer from the proofs given in the *Prior Analytics* what kinds of impossibility are suitable for proofs by *reductio ad impossibile* to be carried out.

As it has been argued in section 2, although such a difference is not stressed in the literature, there seems to be disagreement among scholars regarding what kinds of inconsistency are suitable for a proof by *reductio ad impossibile*. Some scholars define

²⁷ Let proposition be any string of symbols of the form $\alpha x \beta$ in which α and β are substituted for predicate terms and x for a (universal affirmation), e (universal negation), i (particular affirmation) or o (particular negation). Regarding 'premise' and 'hypothesis', both are propositions, but the former is assumed to be true and the latter only conditionally taken to be true, in such a way that, if any inconsistencies come up, they are known to be due to the hypothesis and, therefore, the hypothesis is taken to be false. Concerning the syllogistic inferences admissible for step (iv), let them be any mood of inference previously proved to be syllogistic.

reductio ad impossibile as a procedure that admits only contradictions as the inconsistency required for the proof to be carried out, which I named ‘traditional interpretation’, for this reading seems to be more common among scholars than its alternative version. Other scholars define *reductio ad impossibile* as a procedure that admits both contradictions and contrarieties as the inconsistency required for the proof to be carried out, which I named ‘alternative interpretation’.

Thus, the preliminary description of *reductio ad impossibile* (I) presented is vague and can be read as either of the two following definitions:

(I.1) Proof by *reductio ad contradictionem*. A finite sequence of propositions is a proof by *reductio ad impossibile* in Aristotle’s syllogistic if and only if every proposition in it is either (i) a premise, (ii) a hypothesis, (iii) the repetition of a premise, (iv) the conclusion of a syllogistic inference from (i) and (ii) or (ii) and (iii), (v) the statement of a contradiction in (i) and (iv), or (vi) the statement of the contradictory of (ii) due to (v).

The following is a schema of (I.1):

- 1 Premise 1 (*P1*) (i).
- 2 Premise 2 (*P2*) (i).
- 3 Hypothesis (*Hyp*) (ii).
- ⋮ Repetition of 1 or 2 for the syllogistic inference (if required) (iii).
- n* Conclusion of a syllogistic inference whose premises are 1 and 3 or 2 and 3 (in any order) (iv).
- n* + 1 Stating that *n* and 1 or *n* and 2 are contradictory (v).
- n* + 2 Conclusion of the contradictory of 3, which is taken to be true because 3 is taken to be false due to *n* + 1 (vi).

(I.2) Proof by *reductio ad contradictionem vel contrarietatem*. A finite sequence of propositions is a proof by *reductio ad impossibile* in Aristotle’s syllogistic if and only if every proposition in it is either (i) a premise, (ii) a hypothesis, (iii) the repetition of a premise, (iv) the conclusion of a syllogistic inference from (i) and (ii) or (ii) and (iii), (v) the statement of a contradiction or a contrariety in (i) and (iv), or (vi) the statement of the contradictory of (ii) due to (v).

The following is a schema of (I.2):

- 1 Premise 1 (*P1*) (i).
- 2 Premise 2 (*P2*) (i).
- 3 Hypothesis (*Hyp*) (ii).
- ⋮ Repetition of 1 or 2 for the syllogistic inference (if required) (iii).
- n* Conclusion of a syllogistic inference whose premises are 1 and 3 or 2 and 3 (in any order) (iv).
- n* + 1 Stating that *n* and 1 or *n* and 2 are contradictory or contrary (v).
- n* + 2 Conclusion of the contradictory of 3, which is taken to be true because 3 is taken to be false due to *n* + 1 (vi).

Reductio ad contradictionem (I.1) is what the traditional interpretation considers Aristotle’s proofs by *reductio ad impossibile* to be, whereas *reductio ad contradictionem vel contrarietatem* (I.2) is how the alternative interpretation understands them.

One might try to argue that the two interpretations are not different at all. It could be claimed that, although the traditional interpretation includes only contradiction as an acceptable impossibility in the definition of *reductio ad impossibile*, as contrarieties imply contradictions, the traditional interpretation would also indirectly accept contrarieties as suitable impossibilities for the proofs in question. Thus, the notion of *reductio ad impossibile* endorsed by the traditional interpretation would amount to the one endorsed by the alternative interpretation.

It should be noticed that contrariety implying contradiction lies on the supposition of existential import. It could be argued, in favour of the claim under discussion, that a contrariety, i.e., the relation between propositions AaB and AeB , implies contradiction, i.e., either the relation between propositions AaB and AoB or AeB and AiB . That implication requires subalternation: $AaB \vdash_{syl} AiB$ and $AeB \vdash_{syl} AoB$. However, subalternation presupposes existential import. Subalternation rules hold only if universal propositions have existential import, so particular propositions can be derived from them. Nonetheless, Aristotle's commitment to existential import is known to be a controversial matter²⁸. This, of course, does not rule out contrariety implying contradiction, but does put it in question. Therefore, arguing that the definition of the traditional interpretation indirectly includes contrariety lies on controversial grounds.

Putting this controversial matter aside, there are further reasons for arguing that the two interpretations do not amount to the same understanding of *reductio ad impossibile*. First, every proof by *reductio ad contradictionem* (I.1) will have one step more than proofs by *reductio ad contradictionem vel contrarietatem* (I.2), for stating a contrariety as inconsistency is not enough for the former proofs, but one always has to explicitly derive a contradiction from it, whereas in the latter proofs that is not required.

Moreover, traditional and alternative interpreters clearly do not have the same definition of *reductio ad impossibile* (I). *Reductio ad contradictionem* (I.1) definitionally requires a contradiction for the *reductio* to be carried out. On the other hand, *reductio ad contradictionem vel contrarietatem* (I.2) definitionally requires either a contradiction or

²⁸ For some problems regarding the existential import supposition in Aristotle, see Smith (1989, p. xxv-xxvi) and Mignucci (2007). Of course, the first subalternation rule ($AaB \vdash_{syl} AiB$) can be obtained using the *a*-conversion ($AaB \vdash_{syl} BiA$) and the *i*-conversion ($AiB \vdash_{syl} BiA$) rules presented by Aristotle in *Prior Analytics* I 2. The second subalternation rule ($AeB \vdash_{syl} AoB$) might be obtainable in some other way. However, by using conversion rules instead of subalternation ones, one does not get rid of the existential import supposition, for conversion rules require existential import as well (Smith 1989, p. xxv-xxvi).

a contrariety. Such different definitions of *reductio ad impossibile* are a result of interpreters having different notions of it. Traditional interpreters have a notion of *reductio ad impossibile* for which contradiction is necessary and sufficient, whereas contrariety is not necessary nor sufficient. On the other hand, alternative interpreters have a notion of *reductio ad impossibile* for which either contradiction or contrariety is necessary and sufficient. Thus, the requirements of the two definitions and the properties of the two notions are not the same.

All of the reasons listed above try to show that traditional and alternative interpretations are different through logical means. Exegetically, it is easier to show the point. In section 3, it has been shown that two of Aristotle's proofs by *reductio ad impossibile* in assertoric syllogistic require contrariety as an impossibility. One of them, the proof of *Darapti* in *Prior Analytics* I 7, was constructed by Aristotle himself. In this proof, he uses a contrariety to carry out the *reductio* without reducing contrariety to contradiction. Nonetheless, traditional interpretation requires that a contradiction appear in a proof by *reductio ad impossibile*. Therefore, according to their definitions, Aristotle's proof of *Darapti* in *Prior Analytics* I 7 would not be a well-constructed proof by *reductio ad impossibile*, for no contradiction appears in it. Thus, none of the definitions or descriptions of *reductio ad impossibile* presented by traditional interpreters in section 2 is a suitable reconstitution of Aristotle's definition or notion of proof by *reductio ad impossibile*, for none of them include the proof of *Darapti*, which Aristotle recognises as a proof by *reductio ad impossibile*. The definitions set forth by alternative interpreters, on the other hand, are suitable reconstitutions of Aristotle's notion, for they include both the proofs included by the traditional interpretation and the counterexample to it, namely, the proof of *Darapti*. This is enough to show that the interpretations are different and that one is exegetically adequate, whereas the other is not.

An aspect of the definitions of *reductio ad impossibile* in the traditional interpretation that is likely misleading is the use of propositional language, especially in the formulation of inconsistency. Many of them represent the impossibility in the proof in schemata such as '*P* and its negation' or '*P* and $\neg P$.' These formulations correspond to only one of Aristotle's kinds of inconsistency, namely contradiction. Aristotle's predicate language used for syllogistic contains at least one other kind inconsistency besides contradiction, namely, contrariety. It has been shown that contrariety is, alongside contradiction, an admissible kind of inconsistency for proofs by *reductio ad impossibile*. As definitions of proof by *reductio ad impossibile* in propositional language seem to lead

into taking only contradiction as inconsistency, for contrariety is not expressible in it, predicate language seems to be more suitable for defining Aristotle's *reductio ad impossibile* and representing inconsistency in the *Prior Analytics*.

According to definitions (I.1) and (I.2), every *reductio ad contradictionem* is a *reductio ad contradictionem vel contrarietatem*, but the converse proposition does not hold universally, for although some *reductio ad contradictionem vel contrarietatem* are *reductio ad contradictionem*, some are not, e.g., the proofs of *Darapti* and *Felapton*. Therefore, the definition of *reductio ad impossibile* ascribed to Aristotle by the traditional interpretation, which I called 'proof by *reductio ad contradictionem*' (I.1), is not a suitable definition for Aristotle's procedure of *reductio* in the *Prior Analytics*, for there are (at least) two cases of *reductio ad impossibile*, recognized by Aristotle as such, which are not included by the definition mentioned. Therefore, I argue that Aristotle is not committed to (I.1), but instead to the definition of *reductio ad impossibile* ascribed to him by the alternative interpretation, which I called 'proof by *reductio ad contradictionem vel contrarietatem*' (I.2).

For proving the claim of this paper, that the traditional interpretation of *reductio ad impossibile* does not correspond to Aristotle's account of it, but that the alternative interpretation of it does, I have analysed only proofs in assertoric (i.e., non-modal) syllogistic in book I of the *Prior Analytics*. More evidence for the alternative interpretation point might be found elsewhere. However, one example of a proof by *reductio ad impossibile* recognized by Aristotle as so and not by the traditional interpretation is enough to refuse their definition, and I have presented two, of which at least one, the proof of *Darapti*, is uncontroversial.

Thus, some of Aristotle's passages on *reductio ad impossibile* have been analysed, as have been scholars' accounts of it, which were divided in traditional and alternative interpretations. Then, textual evidence has been presented against the traditional interpretation and in favour of the alternative one. Finally, the definition of *reductio ad impossibile* of each interpretation has been presented and it has been summed up why the alternative interpretation is preferable to the traditional one.

Antônio Mesquita Neto
Universidade Federal de Goiás

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Uma “exploração arqueológica” da ideia de vazio como recipiente a partir de Aristóteles, *Physica* 4.6 213a15-19

Gustavo Laet Gomes

Even though rejecting the notion of void, Aristotle considers it a crucial theme in his discussion about motion. That becomes evident when we find four chapters of *Physics* 4 dedicated to the discussion and refutation of the void. In this paper, I set on an exploratory search for the reasons that moved Aristotle to discuss the idea of void as a *container* (ἄγγεῖον) in *Phys.* 4.6 213a15-19, unearthing a series of terms and notions used by previous thinkers that may have led Aristotle to formulate such conception. Special attention is given to Democritus, who, with his theory of atoms and void, is clearly the main target of Aristotle’s criticism of the void. I conclude that the notion of void as a container is not at all strange to ancient thinkers, and that its reconstitution by Aristotle is everything but trivial and simplistic, inasmuch as the Democritean notion of void he intends to refute is everything but trivial and simplistic.

Nos capítulos 6 a 9 do livro 4 da *Física*, Aristóteles apresenta sua mais extensa discussão a respeito do tema do vazio. Nas primeiras linhas do capítulo 6 (213a12-15) ele anuncia a importância deste tópico para o pensador naturalista e equipara sua importância ao estudo da noção de lugar, que ocupou os primeiros cinco capítulos do livro 4. Tal importância parece residir no fato de que o vazio costuma ser mobilizado em explicações a respeito do movimento, assumindo um papel que pode ser confundido com o da noção aristotélica de lugar, de modo que os dois tópicos – vazio e lugar – não podem ser totalmente dissociados.

A questão do vazio interessa obviamente ao estudo do atomismo de Leucipo e Demócrito, já que ele é apontado, junto com os átomos, como um dos princípios elementares de tal teoria. De fato, esses dois pensadores parecem ser os mais visados na discussão de Aristóteles e são mencionados explicitamente no capítulo 6, como defensores de um vazio que quebra a continuidade do que é corpo, junto com “muitos

outros naturalistas” (213a31-b1), a respeito dos quais não é claro se defendem o vazio ou apenas a descontinuidade do que é corpo.

Não obstante, não é incomum que alguns estudiosos do atomismo tomem uma definição que Aristóteles sugere no capítulo 7 como sendo a posição que ele atribui a Leucipo e Demócrito:

δοκεῖ δὴ τὸ κενὸν τόπος εἶναι ἐν ᾧ μηδὲν ἐστὶ. τούτου δ' αἴτιον ὅτι τὸ ὄν σῶμα οἴονται εἶναι, πᾶν δὲ σῶμα ἐν τόπῳ, κενὸν δὲ ἐν ᾧ τόπῳ μηδὲν ἐστὶ σῶμα, ὥστ' εἴ που μὴ ἔστι σῶμα, οὐδὲν εἶναι ἐνταῦθα. (Arist. *Phys.* 4.7 231b31-34 [$<$ WL 33.5; \neq DK])¹

O vazio, então, parece ser um lugar no qual não há nada. E a causa disso é porque pensam que o-que-é corpo, e que todo corpo é² em um lugar, e que vazio é o lugar em que não há corpo algum, de modo que, se em algum lugar não há corpo, então não há nada ali.³

É o caso de David Sedley (1982, p. 179 e n. 10 [p. 191-192]), que vê nisso uma estratégia aristotélica para refutar o vazio, que poderia ser resumida mais ou menos assim: Se Demócrito pensa o vazio como um *lugar sem corpo*, isso implicaria em entendê-lo como uma *distância entre corpos*, ou seja, uma extensão espacial em que não há corpos. Aristóteles, então, refutaria – dentro dos parâmetros de sua teoria do lugar – a existência de tal extensão espacial vazia e, com isso, também o vazio, que não poderia existir enquanto tal (*cf. Phys.* 4.7 214a16-31). Para Sedley, ao que parece, o procedimento aristotélico implicaria que o vazio não pode ser entendido como espaço, porque seria o próprio Aristóteles o primeiro a fazer tal assimilação entre vazio e espaço ao interpretar o vazio democritiano como lugar. A partir desta conclusão, Sedley encontraria margem para pensar que o próprio vazio de Demócrito também fosse um “ocupador de espaço” e qualquer coisa substancial (uma “substância negativa”), ainda que em grau menor do que os átomos (Sedley, 1982, p. 175-176, 179-180).

¹ Indicarei as passagens relativas a pensadores pré-socráticos preferencialmente pela coleção de Laks & Most (*Early Greek Philosophy*. 9 vols. Cambridge: Harvard University Press 2016), sigla LM, indicando também a equivalência em Diels-Kranz (Diels, H. *Die Fragmente der Vorsokratiker*. 6th ed. (rev. by Walther Kranz). Berlin: Weidmann 1952), sigla DK. Nos casos em que um determinado trecho não constar em nenhuma das duas, poderá ser indicada, uma coleção alternativa como WL (Leszl, W. *I Primi Atomisti*. Raccolta dei testi che riguardano Leucippo e Democrito. Firenze: Leo S. Olschki 2009) ou SL (Luria, S. Y. *Democrito*. Tradução de Diego Fusaro e Anastasia Krivushina. 2ª ed. Milano: Bompiani 2014), além da indicação de que não consta em DK. Utilizo ainda os sinais $<$, $>$ e $=$ para indicar o modo de correspondência do texto citado com o fragmento. \neq indica que o texto não aparece na coletânea indicada.

² Tomei deliberadamente a decisão de não supor o verbo *estar*. Me parece que não se trata de um problema de posição, mas de existência, como se, para algo existir, fosse necessária a existência prévia de uma sede que funciona como uma espécie de palco, como veremos abaixo.

³ Todas as traduções são minhas.

Sedley, porém, não se demora sobre os argumentos que levam Aristóteles a sugerir a semelhança entre vazio e lugar na *Física*, remetendo-se à análise de Friedrich Solmsen (*Aristotle's System of the Physical World*. Ithaca: Cornell University Press 1960, p. 140-142), para quem a assimilação entre vazio e lugar seria uma espécie de inovação aristotélica adotada apenas no atomismo de Epicuro (Solmsen, 1960, p. 141).⁴ De fato, há um único fragmento de Epicuro, transmitido por Plutarco (*Adv. Col.* 11 1112E [fr. 76 Usener; B14 Bailey]), em que a palavra τόπος (lugar) é utilizada de modo aparentemente intercambiável com κενόν (vazio).⁵

A questão é se Solmsen está, de fato, descartando a hipótese do vazio como espaço ou apenas a assimilação entre vazio e a noção, agora sim, aristotélica de lugar,⁶ que, como se sabe, é bem distante da ideia de lugar que permeia o senso comum e, definitivamente não é a de lugar como espaço. Rejeitar a ideia de vazio como lugar aristotélico não significa, portanto, rejeitar a noção de vazio como espaço. Significa rejeitar a noção de vazio como um dos elementos necessários para descrever um determinado movimento, a saber, os términos – *de que* (ἐξ οὗ) e *para que* (εἰς ὃ) – de um movimento local (*cf. Phys.* 5.1 224a34-b1). Significa ainda rejeitar o vazio como ente físico existente, pois, para Aristóteles o lugar é um limite (do corpo móvel) e, como tal, não deve ser contado entre os entes naturais, pois não tem uma existência independente do corpo móvel. Mas este

⁴ Ver ainda Morel, P.-M. *Démocrite et la recherche des causes*. Paris: Klincksieck 1996, p. 65 & n. 65, que também recorre a Solmsen e diz que “Aristote néglige assurément, dans la réfutation des partisans du vide, la richesse du concept démocritéen” ao apresentar “le vide abdérain comme une conception erronée du lieu”.

⁵ Plutarco cita ἡ τῶν ὄντων φύσις σώματά ἐστι καὶ τόπος (a natureza das coisas que são é corpos e lugar), mas em seguida toda a discussão com Colotes não utiliza mais a palavra τόπος, mas apenas κενόν. Há um esolío *ad* Epicur. *Ep.* I.39 (fr. 76 Usener) que atribui esta frase ao livro Περὶ φύσεως. Sexto Empírico tem uma citação praticamente idêntica a não ser por duas diferenças: ἡ τῶν ὄλων φύσις σώματά ἐστι καὶ κενόν (a natureza de todas as coisas é corpos e vazio) (*Adv. Math.* 9.333 [fr. 75 Usener; B13 Bailey]; grifos meus). O termo τόπος aparece ainda em outros dois testemunhos (mencionados em nota ao fr. 76 Usener): Philod. *Piet.* 2.81 (p. 111 Gomperz): [τὸ δὲ λέγειν Ἐπίκουρον τῷ τὸ πᾶν διαιρεῖσθαι μὲν εἰς] σώματα καὶ τόπον (m. τοῦτον), τοὺς θεοὺς δὲ μὴ συναριθμεῖσθαι περιγράφειν αὐτοὺς, τελέως ἀναλγήτων ἐστίν, εἰ μὴ τὰς ἀνωτάτοις διαιρούμενος κοινότητος ἔμελλεν ἐναριθμῆ[σιν] τὰς <τῶν> ἐν ταύταις περιελημμένων; e em Stob. *Ecl.* 1.18.4 (= Aët. 1.20.2; *DG* 318; fr. 271 Usener): Ἐπίκουρος ὀνόμασιν πᾶσιν παραλλάττειν κενόν τόπον χώραν. Ver também Lucr. 1.426 (*locus ac spatium quod inane uocamus* [lugar ou espaço, aquilo a que chamamos vazio]), 954-955 (*item quod inane repertumst / seu locus ac spatium, res in quo quaeque gerantur* [também o vazio que foi encontrado – ou lugar, ou espaço – no qual se geram todas as coisas]).

⁶ A segunda opção parece mais ser o caso, pois ele diz que é Aristóteles que “likes to think of the void as a place” (Solmsen, 1960, p. 141).

não é o caso do vazio democritiano, que é um ente natural independente e completamente distinto dos átomos.

Ao contrário de Sedley, podemos imaginar um Aristóteles cuidadoso que, diante da sua concepção própria e bastante peculiar de lugar, alerta que igualar vazio e lugar é um erro e que aqueles que o fazem estão pensando justamente em lugar como um espaço que pode estar cheio (*i.e.* ocupado) ou vazio (*i.e.* não ocupado). Por esta leitura teríamos uma associação entre vazio e lugar anterior à concepção aristotélica de lugar e compatível com certo senso comum. Seria muito desonesto da parte de Aristóteles introduzir uma concepção nova de lugar e simplesmente refutar todas as demais noções associadas à concepção anterior de lugar. Mas este não parece ser o caso, pois Aristóteles toma o cuidado de fazer um levantamento bem representativo em *Phys.* 4.6 de certos usos do termo ‘vazio’ correntes em sua época. O processo refutatório que se inicia no capítulo 7 tem como objetivo assegurar que não há necessidade de uma concepção de vazio para se pensar o movimento e a mudança, e é por isso que é tão importante rejeitar a associação entre vazio e lugar, e mais adiante, no capítulo 9, entre vazio e matéria.

Mas se Aristóteles não está simplesmente dizendo que, para Demócrito e Leucipo, o vazio é um lugar, o que é possível extrair de sua longa discussão sobre o vazio? Acredito, diferentemente de Sedley e Morel, que há muito o que aprender, a partir da tentativa de Aristóteles de compreender as noções de vazio entre seus predecessores, especialmente no capítulo 6. Meu intuito nas próximas páginas é registrar a primeira etapa de um processo de coleta e análise de uma série de possíveis sentidos da palavra e da ideia de vazio que estão presentes ou pressupostas em *Phys.* 4.6, e até mesmo eventuais noções que podem estar embutidas nesses sentidos sem que o próprio Aristóteles tenha se dado conta delas. Começando pela primeira afirmação do capítulo que tenta qualificar o vazio, a ideia é fazer uma espécie de arqueologia desses sentidos, partindo principalmente de etimologias e da análise de termos derivados ou termos dos quais certas palavras utilizadas por Aristóteles derivam, supondo com isso, que os termos derivados carreguem voluntária ou involuntariamente algum sentido mais “ancestral”, o que talvez possa ajudar a ampliar nossa compreensão da noção de vazio, agora sim, especialmente aquela de Demócrito que, para todos os efeitos, é o principal adepto desta noção na antiguidade. Minha ideia é empregar o mesmo procedimento para todos os 4 capítulos. Neste trabalho me restringirei a *Phys.* 4.6 213a15-19 numa tentativa de testar o conceito, focando especificamente nos desdobramentos da ideia de vazio como *recipiente* (ἀγγεῖον).

Temos notícia de que Demócrito teria empregado vários termos para se referir ao que se convencionou denominar como “o vazio” (*cf.*, por exemplo, Arist. *apud* Simplicius in *Cael* 295.11-12 [*< LM27 D29; < DK68 A37*], o fragmento do tratado perdido de Aristóteles *Sobre Demócrito*). A tradição adotou o adjetivo substantivado ‘vazio’, como designação preferencial, bem como o termo ‘átomo’ para se referir ao princípio oposto. Embora eu vá utilizar aqui eventualmente ‘vazio’ e ‘átomos’ para se referir a essas noções, quero deixar aberta a possibilidade de que o mais correto talvez fosse manter esses termos como adjetivos e que os entes a que eles se referem talvez sejam mais difíceis de apreender do que sugerem à primeira vista esses adjetivos substantivados, que têm o estranho poder de convertê-los em substâncias quase aristotélicas. Essa ambiguidade morfológica do termo ‘vazio’ aparece já no início de *Phys.* 4.6:

οἷον γὰρ τόπον τινὰ καὶ ἀγγεῖον τὸ κενὸν τιθέασιν οἱ λέγοντες, δοκεῖ δὲ πᾶσι μὲν εἶναι, ὅταν ἔχῃ τὸν ὄγκον οὗ δεκτικόν ἐστιν, ὅταν δὲ στερηθῇ, κενόν, ὥς τὸ αὐτὸ μὲν ὄν κενὸν καὶ πᾶσι καὶ τόπον, τὸ δ’ εἶναι αὐτοῖς οὐ ταὐτὸ ὄν. (Arist. *Phys.* 4.6 213a15-19 [*< WL 33.1; ≠ DK*])

Pois aqueles que falam do vazio apresentam-no tal qual um certo lugar ou um recipiente, que parece estar cheio quando contém a massa que é capaz de receber e vazio quando [esta massa] é removida, como se vazio, cheio e lugar fossem o mesmo, mas o ser dessas coisas não é o mesmo.

Neste trecho, em que Aristóteles apresenta, digamos assim, uma primeira impressão geral sobre o vazio, o termo κενόν ocorre três vezes: na primeira (213a16), como adjetivo substantivado (objeto direto do particípio λέγοντες); na segunda (213a18), como adjetivo (predicativo verbal do infinitivo εἶναι); e, na terceira (também em 213a18), a situação é propositalmente ambígua justamente para gerar a *aporia*: ‘vazio’ e ‘cheio’ são obviamente adjetivos, mas ‘lugar’ não e esse é naturalmente um dos motivos pelos quais “o ser dessas coisas *não é o mesmo*”.

Parece, portanto, que o termo ‘vazio’ designa antes de tudo uma característica de algo que parece, segundo o trecho acima, ser um recipiente (ἀγγεῖον), o que deve ser provavelmente sua principal característica, de modo que seus proponentes se refeririam a *esta coisa* que é, antes de tudo, *vazia*, como ‘o vazio’. Como recipiente, ele pode, inclusive, *estar cheio*, que é a característica oposta. Portanto, *o vazio* (adjetivo substantivado) pode *estar vazio* (adjetivo) ou *estar cheio*.

A partir desta chave, que é tomar ‘vazio’ como sendo primariamente um predicado de alguma coisa, e não uma substância com uma essência muito bem demarcada, vejamos, então, que outras características desta coisa podem ser depreendidas a partir de seus primeiros predicados encontrados nesta passagem de *Phys.* 4.6.

Recipiente (ἄγγος, ἀγγεῖον)

O primeiro aspecto, e um dos mais importantes ocorre, como vimos, já na primeira oração: “os que falam do vazio o apresentam *tal qual um certo lugar ou um recipiente*” (213a15-16). Esta sentença não indica que Aristóteles esteja afirmando que os postulantes do vazio dizem que ele é um lugar, mas que o modo pelo qual eles falam do vazio o faz parecer um tipo de *recipiente* (ἀγγεῖον). A associação com lugar a princípio é por conta de Aristóteles, que já tinha notado antes que, em certo sentido, um lugar funciona como um recipiente por *ser separado* (χωριστός) da coisa que ele contém (*Phys.* 4.2 209b27-30). Que a ideia principal aqui é a de recipiente fica claro na sentença seguinte (4.6 213a16-18), onde ele explica em que sentido o vazio, tal como é apresentado, se comportaria como um recipiente: ele é dito cheio quando parece conter algo – uma massa ou *volume* (ὄγκον) correspondente à sua capacidade – e vazio quando essa massa é removida e, portanto, não ocupa mais o volume correspondente à sua *capacidade*.

A palavra ἀγγεῖον é uma variação de ἄγγος, que, segundo Beekes (2010, p. 10), se refere a vasilhames utilizados principalmente na cozinha e tem provavelmente origem mediterrânea. Como um vasilhame deste tipo, sua principal função é *guardar* e eventualmente *transportar* alimentos (*cf. Phys.* 4.3 210b11). Em seu sentido mais técnico, ἀγγεῖον é muito utilizada por Aristóteles, que a define como “um lugar transportável” (ἔστι γὰρ τὸ ἀγγεῖον τόπος μεταφορητός – *Phys.* 4.2 209b29).⁷

Ἄγγος ocorre em um verso de Empédocles (LM22 D201a.12 [DK31 B100.12]), empregado com o sentido de recipiente na bela cena de uma criança brincando com uma *clepsidra* (v. 9-21) que ora contém ar, ora contém água. Não há outras ocorrências do termo em fragmentos, mas temos alguns casos interessantes em alguns testemunhos.

Hecateu de Abdera, por exemplo, historiador e filósofo, discípulo de Pirro, contemporâneo de Aristóteles, descreve em DK73 B7 (*apud* Diod. Sic. 1.11.1, 5-6; 12.1-2, 3-7) uma teoria cosmológica egípcia, supostamente antiga, segundo a qual o todo é regido e de certo modo composto por sol e lua, identificados com Osíris e Ísis, e que estes são constituídos a partir de cinco elementos: sopro (πνεῦμα), fogo, seco, úmido e aéreo (ἀερῶδες). Segundo Hecateu, cada um desses elementos é, por sua vez, associado a uma

⁷ Sobre este sentido técnico, ver também *Phys.* 4.3 211b26 (um recipiente que muda de lugar transportando o seu conteúdo, mas as partes da coisa que o recipiente contém permanecem em seus lugares) e 4.4 212a13-17 (se um recipiente pode ser entendido como um lugar móvel, o lugar pode ser entendido como um recipiente que não pode ser movido).

divindade grega. O sopro é chamado Zeus, o fogo é chamado Hefesto, o úmido é chamado Oceano e o ar (no lugar do “aéreo”) é chamado Atena. Já o elemento seco aparece substituído por terra, que é chamada Mãe “por acolher, *como um recipiente*, as coisas que crescem (ὥσπερ ἀγγεῖόν τι τῶν φυομένων ὑπολαμβάνοντας)” (*apud* Diod. Sic. 1.12.4).

Também encontramos descrições fisiológicas que utilizam o termo ἀγγεῖον. Pseudo-Plutarco, por exemplo, descreve que, para Empédocles,

τὴν πρώτην ἀναπνοὴν τοῦ πρώτου ζώου γενέσθαι τῆς <μὲν> ἐν τοῖς βρέφεσιν ὑγρασίας ἀποχώρησιν λαμβανούσης, πρὸς δὲ τὸ παρακενωθὲν ἐπεισόδου τοῦ ἐκτὸς ἀερώδους γινομένης εἰς τὰ παρανοιχθέντα τῶν ἀγγείων (Ps.-Plut. *Plac. phil.* 4.22.1 [= Aët. 4.22.1; *DG* 411; < LM22 D170b; < DK31 A74])

a primeira inspiração do primeiro ser vivo ocorreu a partir da saída do [elemento] aquoso [que estava] nos embriões e pela entrada do [elemento] aéreo externo no vazio resultante, através das aberturas dos vasos.

Esta descrição lembra em alguma medida o funcionamento da clepsidra, pois a saída do líquido de dentro dos embriões gera uma diferença de pressão que faz com que o ar a preencha imediatamente. Os vasos aqui permitem a passagem de algo de dentro para fora do corpo e de fora para dentro.⁸

Em *Cael.* 3.7 305a33-b19 (WL 18.6 + 48.7; > DK68 A46a), mencionando explicitamente Empédocles e Demócrito, Aristóteles utiliza o termo ἀγγεῖον em dois sentidos ligeiramente diferentes. Primeiro ele sugere que os elementos tanto em Empédocles quanto em Demócrito são persistentes e surgem (de modo separado) a partir da decomposição de compostos, como se os compostos fossem uma espécie de *reservatório* (ἀγγεῖον, 305b4), isto é, um *recipiente cheio* de elementos. O recipiente aqui não é vazio (até porque Empédocles não admite o vazio), mas um composto que contém elementos. Na sequência, ele utiliza ἀγγεῖα (305b15), mas agora com o sentido de *recipientes cheios* de líquidos que estouram devido à vaporização dos líquidos e o consequente aumento de pressão.

Receptáculo (δοχεῖον) / Capaz de Receber (δεκτικόν)

Aristóteles também emprega ἀγγεῖον com frequência em descrições anatômicas para se referir a órgãos que possuem ou funcionam como *receptáculos* (*HA* 3.20 521b6),

⁸ Cf. também LM22 D25a (DK44 A27) e DK68 C6.10 (≠ DK), que descrevem vasos sanguíneos e do sistema excretor em Filolau e Demócrito, respectivamente, utilizando a palavra ἀγγεῖον.

como o pulmão (GA 5.7 787b3), o ventre (PA 4.5 680b34), a mama (PA 4.11 692a12) e até mesmo vasos sanguíneos (HA 3.2 511b17). Uma característica comum a esses órgãos é o fato de eles serem *capazes de receber algo* (δεκτικά), em geral fluidos corporais, mas também ar e alimentos, tal como é o vazio na nossa passagem de Phys. 4.6 (δεκτικόν, 213a17).

Δεκτικόν deriva do verbo δέχομαι (ou δέκομαι na grafia jônica, que significa *pegar, aceitar, receber*; cf. Beekes, 2010, p. 320). Deste verbo derivam outras palavras que têm o sentido de *recipiente* ou *contêiner* como o adjetivo δοχός (*que recebe, recipiente*) e os substantivos δοχεῖον (*segurador, receptáculo, contêiner*) e δοχεύς (*recebedor*) (cf. Beekes, 2010, p. 321).⁹

Em Arist. Pol. 4.3 1290b27, o termo δεκτικόν sugere a função de recebimento e absorção de alimentos desempenhado pelo par boca e estômago. Já em Resp. 8 474b6-7, Aristóteles diz que os vasos sanguíneos (φλέβα) existem em função do sangue, “como recipientes e aptos a receber (ὥς ἀγγεῖον καὶ δεκτικόν)” o sangue, cuja ἀρχή (origem?) é o coração (474b5-6). O que se pode depreender aqui é que os vasos sanguíneos, que normalmente são referidos pelo termo φλέβα, também são chamados ἀγγεῖον (como em HA 3.2 511b17), porque têm como principal função *receber, conter e viabilizar o transporte* do sangue através do corpo, a partir do coração. Isso está de acordo com a definição de ἀγγεῖον em Phys. 4.2 209b29 que vimos acima, pois, embora não sejam como um jarro de vinho, que uma pessoa toma e carrega consigo de um lugar para o outro,

⁹ Algumas outras palavras derivadas de δέχομαι que têm sentidos interessantes:

- δοκός {subst.} – *viga, viga-mestra*. A viga principal no teto ou no piso de uma casa. A viga-mestra “toma sobre si”, isto é, *recebe* a cobertura (Beekes, 2010, p. 345: “which takes on [the covering]”). É como se ela recebesse por ser o fundamento, isto é, o lugar onde se assenta, toda a estrutura.
- δοκέω {verb.} – o famoso verbo que significa *parecer, ser da opinião*. Segundo Beekes (2010, p. 345), não é fácil explicar as relações semânticas entre δοκέω e δέχομαι, mas δοκός parece ajudar. Talvez, dizer ‘o que me parece’ equivalha a identificar uma “base” sobre a qual eu posso “montar” uma opinião.
- δέκτωρ {subst.} – *aquele que recebe*. Alguém que toma algo sobre si ou sobre sua própria cabeça. Parece conversar com o sentido de δοκός.
- δέκτης {subst.} – *recebedor, o pedinte* que recebe esmolas.
- δεκτός {adj.} – *que é recebido, que é aceito, que é pego* (no sentido de compreendido).
- δεκτήρ ou ὑποδέκτης {subst.} – *recebedor*, mas agora parece ser um coletor de impostos, pois o termo é utilizado como título oficial (cf. Beekes, 2010, p. 321 & LSJ).
- δοκάω {verb.} – *esperar*.
- δοκεύω {verb.} – *vigiar, observar, esperar*.
- προσδοκάω ou προσδοκέω (jônico) {verb.} – *esperar* seja em esperança ou medo, *esperar* que algo ou alguém chegue; *pensar, supor* que algo seja o caso; *hesitar, procurar* por algo.

e que seria um ἀγγεῖον em sentido mais próprio, os vasos sanguíneos têm sim um papel no transporte do sangue através do corpo, funcionando como vias.

Esses mesmos sentidos ocorriam em Demócrito, que, segundo o léxico de Hesíquio (LM27 D182 = DK68 B135), empregava o termo δεξαμεναί (*recedoras*), também derivado de δέκομαι, para indicar “recipientes para água [ou fluidos em geral]¹⁰ e as veias no corpo (ὕδατων δοχεῖα, καὶ ἐν τῷ σώματι φλέβες)”.

Temos ainda o caso das cinzas, que Aristóteles menciona em *Phys.* 4.6 e que costuma ser elencado como um dos argumentos democritianos a favor do vazio:

μαρτύριον δὲ καὶ τὸ περὶ τῆς τέφρας ποιῶνται, ἥ δέχεται ἴσον ὕδωρ ὅσον τὸ ἀγγεῖον τὸ κενόν. (Arist. *Phys.* 4.6 213b21-22 [< LM27 D39; < DK67 A19])

Eles também produzem como evidência o que se passa com a cinza, a qual recebe tanta água quanto um recipiente vazio.

As cinzas parecem ter a estranha capacidade de *receber* (δέχεται) água como se fossem um *recipiente vazio* (τὸ ἀγγεῖον τὸ κενόν). O experimento é explicado em detalhes em Ps.-Arist. *Probl.* 25 938b14-939a9. Neste capítulo 25, o comportamento do ar é discutido em várias situações, dentre as quais aparece o problema das cinzas. Ao que parece, quando a água é derramada num recipiente cheio de cinzas ela substitui o ar nas *cavidades* (κοιλίας) das cinzas. O autor chega a oferecer uma explicação em que é a cinza que recebe a água mesmo quando ela é misturada à água já no recipiente. O que torna a cinza semelhante a um vaso é a presença dessas cavidades por onde a água penetra, gerando efeito semelhante ao que ocorre quando ela é derramada em um recipiente vazio.

Interessante também é o uso metafórico do termo ἐκδοχεῖον por Demócrito, conforme reportado por Porfírio:

ἀλλ’ ὥς φησιν Δημόκριτος, ἐκδοχεῖον μύθων οὗσα μένει τὴν φωνὴν ἀγγείου δίκην· ἡ δὲ γὰρ εἰσκρίνεται καὶ ἐνρεῖ [...]. (Porph. in *Ptol. Harm.* 32.9-11 [LM27 D155; < DK68 A126a])

mas, como diz Demócrito, [a audição,] sendo um receptáculo de palavras, espera pelo som à maneira de um recipiente. Pois este [i.e. o som] se introduz e flui para dentro [...].

No contexto da citação (a partir de 32.6), Porfírio faz uma distinção entre o aparelho sensorio e a formação de percepções de um sujeito (τὸ ὑποκείμενον) e traça um paralelo entre o que se passa entre a vista e a visão (segundo *os matemáticos* – οἱ μαθηματικοί) e o que se passa entre o aparelho auditivo e a audição (segundo Demócrito). Ao que parece,

¹⁰ Cf. a tradução de Laks & Most.

para Demócrito, o som penetra e flui para dentro dos ouvidos (e eventualmente para a audição onde é recebido já convertido em palavras), como um fluido que se derrama em um oco à *maneira de um recipiente* (ἀγγείου δίκην).¹¹

É impossível não notar o paralelismo desta passagem com *Phys.* 4.6 213a15-19 devido à presença do substantivo ἐκδοχεῖον (que é da mesma raiz e pressupõe como propriedade o adjetivo δεκτικόν) e de ἀγγείου. Diels, inclusive, marca ambas as palavras como sendo democritianas (que em jônico seriam grafadas como ἐκδοχήϊον e ἀγγήϊον).¹² Se ele estiver certo, então, há margem para especular que Aristóteles talvez tivesse diante de si (além de outros materiais relativos a outros autores, evidentemente) a mesma passagem que Porfírio.

E se o termo ἐκδοχεῖον/ἐκδοχήϊον for mesmo democritiano, então estaríamos possivelmente diante de um uso metafórico da noção de *receptáculo*. Palavras são signos ou representações, objetos noéticos obtidos a partir de sons que atingem o aparelho sensorio pelos ouvidos. O ouvido não pode ser um receptáculo de palavras, apenas de sons. Isso pode sugerir a presença no “interior” da mente de uma espécie de recipiente ou espaço noético distinto das palavras *onde* elas ocorrem e realizam suas funções noéticas.

Ainda neste sentido metafórico vale mencionar, por fim, um testemunho de João Lídio (Io. Lyd. *Mens.* 1.15 [DK44 A13; ≠ LM]) que sugere que Filolau teria chamado o número 10 – o número completo e perfeito que engloba as formas de todos os outros números – de *década* (δεκάδα) por ela ser *capaz de receber* (δεκτικήν) o ilimitado.

Cavidade (κοιλία) / Oco (κοῖλος)

O substantivo κοιλία é derivado do adjetivo κοῖλος, que significa *oco*, *espaçoso*, *profundo*, *afundado*, *encavado*, e também *côncavo* e, claro, *vazio* (cf. Beekes, 2010, p. 730). Κοῖλος aparece em muitos contextos – cosmogônicos, físicos e fisiológicos – e, na maior parte das vezes, como característica de uma *região*. Em DK28 B20 (≠ LM), um fragmento atribuído a Parmênides,¹³ menciona-se “um caminho subterrâneo de dar

¹¹ Uma formulação quase idêntica ocorre na epístola pseudoepígrafa de Demócrito a Hipócrates (Hippoc. *Epist.* 23.5 [9.394 Littré; DK68 C6.5; ≠ LM]): “E os ouvidos foram abertos [como] receptáculos de palavras pelo demiurgo (ἐκδοχεῖα δὲ μύθων ὅτα δημιουργὸς ἀνέωιγεν)”.

¹² Laks & Most, porém, marcam apenas a palavra ἐκδοχεῖον como democritiana.

¹³ Que Diels considera dúvida, por sinal, mas isso não vem ao caso, pois o que nos importa são os usos do termo, não tanto seus usuários, muito embora seja importante permanecermos próximos dos “pré-socráticos”.

calafrios, / *encavado* (κοίλη) e lamacento” através do qual se chega ao bosque de Afrodite. Para Anaxágoras (segundo Hipp. Ref. 1.8.5 [< LM25 D4; < DK59 A42]), a terra “é *oca* (κοίλην) e contém água em suas *cavidades* (κοιλώμασιν)”; e (segundo Arist. Meteor. 2.7 365a19-25 [LM25 D62a; DK59 A89]) os terremotos seriam causados por colisões do éter subterrâneo com as *cavidades* (κοῖλα) da terra.¹⁴ Já para Arquelaus, (segundo Hipp. Ref. 1.9.4 [< LM26 D2; DK60 A4]), a terra tem formato côncavo: “elevada na sua circunferência e *afundada* (κοίλην) no centro”. Ele dá ainda como “evidência de sua *concavidade* (κοιλότητος)”, o fato de que o sol não nasce e se põe no mesmo horário em todos os lugares. Além disso, (segundo Diog. Laert. 2.17 [LM26 D3; < DK60 A1]) tanto o mar tende a se depositar nas *cavidades* (ἐν τοῖς κοίλοις) da terra, quanto (segundo Sen. Quaest. nat. 6.12.1 [DK60 A16a; ≠ LM]) os ventos se dirigem para uma região côncava (*concava*), ou em forma de fosso. Também para Diógenes de Apolônia (segundo Alex. in Meteor. 67.8-9 [< DK64 A17; ≠ LM]), o mar é a umidade que se concentra nas zonas *côncavas* (κοίλοις) da terra.

Nos testemunhos sobre Demócrito também encontramos descrições da terra sendo côncava, com a forma de um disco e sendo *afundada* (κοίλην) no centro (Ps.-Plut. Plac. phil. 3.10.5 [= Aët. 3.10.5; DG 377; < LM27 D111; DK68 A94]). Sêneca (Quaest. nat. 6.20.1-4 [LM27 D119b; < DK68 A98]) a certa altura diz que “uma certa porção da terra é *oca* (*concava*)” e é nela que o vento penetra e causa os terremotos. Além disso, ele descreve em detalhes como a água penetra no subsolo e escava passagens por causa de seu peso e ímpeto. As descrições detalhadas de Sêneca se assemelham a uma passagem em que Pseudo-Plutarco apresenta uma cosmogonia anônima de tipo atomista (Ps.-Plut. Plac. phil. 1.4.1-4 [= Aët. 1.4.1-4; DG 289-291; DK67 A24; ≠ LM]).¹⁵ Um trecho em particular fala do surgimento de uma certa “natureza úmida” (ὕγραν φύσιν) e que

ῥευτικῶς δὲ αὕτη διακειμένη κατεφέρετο πρὸς τοὺς κοίλους τόπους καὶ δυναμένους χωρῆσαι τε καὶ στέξαι, ἢ καθ’ αὐτὸ τὸ ὕδωρ ὑποστὰν ἐκοίλαινε τοὺς ὑποκειμένους τόπους; (Ps.-Plut. Plac. phil. 1.4.4)

esta, sendo fluidamente disposta, era conduzida para baixo para lugares cavernosos e capazes de lhe dar espaço e contê-la; ou então, era a própria água que, depositando-se, escavava os lugares que tinha por baixo.

¹⁴ A explicação envolve uma parte baixa e uma parte alta (onde nós estamos) da terra. Entre essas duas partes há cavidades (pois a terra é porosa), mas esses poros ficam entupidos. Ao que parece, o éter aprisionado nas partes mais baixas se choca contra essas cavidades entupidas e gera o terremoto.

¹⁵ Na qual Leszl, 2009, p. 245 (WL 80.2), vê indícios de uma matriz epicurista.

Neste trecho, ocorrem muitas expressões que nos interessam: *lugares cavernosos* (τοὺς κοίλους τόπους) são lugares *capazes de dar espaço e conter* (δυναμένους χωρῆσαι τε καὶ στέξει, que equivale ao adjetivo δεκτικόν, que vimos acima) água. Em outras palavras, funcionam como bons recipientes.

Ainda neste sentido mais geológico, temos um testemunho de Aristóteles (*Meteor.* 2.7 365b1-6 [LM27 D119a; DK68 A97]) em que, mais uma vez (como em Anaxágoras, acima), cavidades subterrâneas têm papel na explicação de terremotos. Segundo Aristóteles, para Demócrito, terremotos ocorreriam quando as *cavidades* (κοιλίας) da terra ficam completamente cheias de água, fazendo com que a terra se mova. E quando a terra seca, ela atrai água de lugares cheios para *lugares vazios* (κενοὺς τόπους). A causa dos terremotos seriam esses movimentos da água dentro da terra, tanto quando ela fica cheia demais, como também quando ela seca, talvez, abruptamente, levando ao movimento contrário.

O substantivo κοιλία, por sinal, que aparece nesta passagem dos *Meteorológicos*, é utilizado principalmente para designar *cavidades corporais*, em particular o *tórax* e o *abdômen*. Em muitos contextos pode ser traduzido por *ventre*, *barriga* ou mesmo *intestino*. A partir deste uso principal, κοιλία acaba designando qualquer tipo de *cavidade* ou *oco*. Κοῖλος e κοιλία ocorrem em muitas situações envolvendo fluidos. É como se houvesse uma tendência de fluidos (como água, ar e éter) se deslocarem e ocuparem lugares ocos. Isso ocorre em especial no subsolo, mas não exclusivamente aí, pois também no corpo humano há essa tendência.

Aristóteles, por exemplo, utiliza o termo κοιλία com o sentido de *ventre* (ou *abdômen*) em seu sumário da teoria de Diógenes de Apolônia sobre o sangue e o aparelho circulatório em *HA* 3.2 511b31-513b11 (LM28 D27 = DK64 B6), que alguns consideram ser uma citação direta de Diógenes.¹⁶ Também Teofrasto, descrevendo os efeitos do sabor doce dentro do aparelho digestivo segundo Demócrito, diz que ele umidifica o alimento e faz com que ele flua (συρρεῖν) para o *ventre* (κοιλίαν), porque esta região do ventre é “*muitíssimo atravessável* (εὐπορώτατον) porque nele há muito vazio (διὰ τὸ πλεῖστον ἐνεῖναι κενόν)” (Theophr. *Sens.* 65 [< LM27 D65; < DK68 A135]).¹⁷

¹⁶ Ver também Theophr. *Sens.* 44 (LM28 D44; < DK64 A 19) e Ps.-Plut. *Plac. phil.* 4.5.7 (= Aët. 4.5.7; *DG* 391; DK64 A20; ≠ LM) em que κοιλίαι se refere às “cavidades do coração”. Cf. ainda Theodor. *Cur.* 5.22 (DK31 A97; ≠ LM), que também fala de “cavidades do coração”, e o termo empedocleano βαυβώ, que Hesíquio traduz por κοιλία (LM22 D160; DK31 B153).

¹⁷ Na sequência (*Sens.* 66), Teofrasto diz que o sabor adstringente (στυφνόν) tem inclusive o poder de *parar o ventre* (τὰς κοιλίας ἰστάναι). Cf. também Censor. *Die nat.* 6.1 (LM27 D171;

Teofrasto nos relata ainda que Alcmeón diz que a audição ocorre nos ouvidos porque há um vazio dentro deles (Theophr. *Sens.* 25 [< LM23 D12a; < DK24 A5]). E que é neste *oco* (κοῖλον) que se produz o som. Esta provavelmente é a fonte de uma passagem muito semelhante de Estobeu (*Ecl.* 1.53.2 [= Aët. 4.16.2; DG 406; LM23 D12b; < DK24 A6]), onde lemos que, para Alcmeón, “todas as coisas ocas (κοῖλα) ressoam”. Por sinal, a passagem equivalente em Pseudo-Plutarco (*Plac. phil.* 4.16.2) é idêntica, exceto justamente por colocar κενὸν que no lugar de κοῖλα. A discussão de Aristóteles sobre a audição e a formação de sons em *An.* 2.8 parece dialogar com essa concepção aqui atribuída a Alcmeón. Além de reconhecer o papel de *ocos* (κοῖλα) na formação de alguns tipos de sons, especialmente os que reverberam (419b14-18), a certa altura ele diz:

τὸ δὲ κενὸν ὀρθῶς λέγεται κύριον τοῦ ἀκούειν. δοκεῖ γὰρ εἶναι κενὸν ὁ ἀήρ, οὗτος δ' ἐστὶν ὁ ποιῶν ἀκούειν, ὅταν κινηθῇ συνεχῆς καὶ εἰς. (Arist. *An.* 2.8 419b33-35 [\neq LM])¹⁸

Se diz corretamente que o vazio é responsável pelo ouvir. Pois o ar parece ser vazio e este é o produtor do ouvir, quando é movido [de modo] contínuo e uno.¹⁹

E, mais adiante:

καὶ διὰ τοῦτό φασιν ἀκούειν τῷ κενῷ καὶ ἡχοῦντι, ὅτι ἀκούομεν τῷ ἔχοντι ὠρισμένον τὸν ἀέρα. (Arist. *An.* 2.8 420a18-19 [\neq LM; \neq DK])

Por causa disso, dizem que o ouvir se dá por meio do vazio e do que ecoa, porque ouvimos por meio do ar limitado que retemos [i.e. no interior dos ouvidos].

A explicação de Aristóteles para como se dá o som e a audição neste capítulo é bastante precisa. Ele não só tem clareza de que o som se propaga por meio do ar, como deixa implícito que não haveria som no vácuo.

Note como essa discussão de Aristóteles e os dois testemunhos sobre Alcmeón acima têm paralelos com a passagem em que Porfírio (*in Ptol. Harm.* 32.9-11 [LM27 D155; < DK68 A126a]) fala da audição em Demócrito como um *receptáculo* (ἐκδοχεῖον) *de palavras*, e do ouvido como um *recipiente* (ἀγγεῖον) de sons, que vimos na seção

DK68 A145), que diz que as duas primeiras partes que se formam no embrião são o ventre (*alvum*) e a cabeça, justamente porque essas duas partes *contêm mais vazio* (*plurimum habent ex inani*). (Agora, por que isso ocorre já é um mistério.)

¹⁸ Diels menciona esta passagem (mas não a lista) como referência em DK24 A6. Ele também menciona Hippoc. *De carn.* 15 (8.603 Littré), onde o autor explica que a audição depende de um osso duro e *oco* (κοῖλον), cujo *oco* é, na verdade, uma estrutura porosa (κοῖλωσις σηραγγώδης; lit. *entalhe poroso*).

¹⁹ Isto é, como uma massa una e contínua de ar, e não em seu movimento aleatório normal. É assim que Aristóteles qualifica o ar que transmite o som em *An.* 2.8.

anterior. Teofrasto inclusive dá notícia de que a explicação de Demócrito sobre a audição era relativamente semelhante à de outros filósofos: ele entendia que o som se propagava por meio do ar e que era pela passagem do ar pelas cavidades do ouvido que o som podia ser capturado pela percepção auditiva (Theophr. *Sens.* 55 [< LM27 D157; < DK68 A135]).²⁰ Sendo assim, também é razoável supor que mesmo para Demócrito não haveria propagação de som numa câmara de vácuo. Pois seria necessário que o vazio em qualquer ambiente estivesse ocupado com ar ou outro meio tênue para que o som se propagasse. Isso pode implicar, por fim, que também Demócrito não teria problemas em utilizar o termo *κενόν* para se referir a um recipiente cheio de ar, conforme o uso corrente da linguagem. Assim, não haveria problema em se referir a uma caverna vazia como sendo um lugar propício para a ocorrência do fenômeno do eco. Uma caverna onde ocorre o eco, evidentemente, não é uma caverna completamente vazia, mas apenas sem outros objetos que possam atrapalhar a propagação livre dos fluxos particulares de ar que transportam determinado som. O eco, aliás, faz parte da descrição de Teofrasto sobre o mecanismo da audição em Alcmeón mencionada acima.

Há ainda um último tipo de uso em que *κοῖλος* parece ser uma espécie de princípio físico-cosmológico. Tudo começa em uma passagem um pouco obscura de *Sobre a geração dos animais* (GA 2.8 747a34-b3 [LM22 D185; < DK31 B92]) em que Aristóteles diz que Empédocles, falando da esterilidade da mula, dizia que o problema estaria na mistura das sementes, quando *as partes ocas* (τὰ κοῖλα) de uma se conectariam às *partes densas* da outra (τοῖς πυκνοῖς), endurecendo a semente. Tentando explicar o trecho, o autor do comentário a GA atribuído a Filopono (Ps.-Philop. in GA 123.13-16 [< DK31 A87; ≠ LM]), sugere que os “entes sublunares” de Empédocles são compostos de *passagens e partes sólidas* (ποροὺς καὶ ναστά) e que essas passagens correspondem às

²⁰ É interessante comparar a descrição de Teofrasto sobre a audição em Demócrito (Theophr. *Sens.* 55-56 [LM27 D157; < DK68 A135]) com a que aparece no capítulo sobre audição do tratado hipocrático *Sobre as carnes* (Hippoc. *Carn.* 15 [8.603 Littré] [≠ LM]). Ambas as explicações destacam a necessidade de que os canais sejam secos, mas enquanto no tratado hipocrático o osso, embora seja duro, é oco e poroso, em Teofrasto apenas se diz que ossos envolvidos no processo devem ser “densos” (πυκνά). Além disso, o autor do tratado hipocrático rechaça especificamente aqueles que consideram que o cérebro ecoa (καὶ εἰσὶ τινες οἱ ἔλεξαν φύσιν ξυγγράφοντες ὅτι ὁ ἐγκέφαλος ἐστὶν ὁ ἡχέων), porque o cérebro é úmido, ao passo que na descrição de Teofrasto há uma sugestão de que o cérebro tenha algum papel (pois deve ser “bem temperado” – εὐκρατος), embora não fique claro exatamente que papel é esse. Ressalva-se, porém, que o que envolve o cérebro deve ser “bem seco” (ξηρότατον). Por fim, a pele do ouvido interno (o tímpano) é descrita como “fina como uma teia de aranha” (λεπτὸν ἐστὶν ὥσπερ ἀράχνιον) no tratado hipocrático, ao passo que Teofrasto menciona uma “membrana” que deve ser “densa” (χιτὼν εἴη πυκνός). Nada impede, porém, que a membrana democritiana seja fina e densa.

partes ocas de GA 2.8, ao passo que as partes sólidas correspondem às partes densas. É interessante ainda como o autor do comentário acaba atribuindo a Empédocles um esquema de princípios muito semelhante ao de Demócrito, com elementos sólidos e elementos ocas, utilizando, inclusive o termo *ναστά*, que, segundo Aristóteles (*apud* Simpl. in Cael. 295.5 [< LM27 D29; < DK68 A37]), era utilizado por Demócrito para caracterizar os átomos.²¹

O Filopono autêntico de fato reconhece uma aproximação entre Empédocles e Demócrito a partir da leitura de Arist. GC 1.8 (cf. Philop. in GC 160.3-11 [< WL 21.7; > DK31 A87]). Mais adiante em seu comentário, porém, ele qualifica melhor a comparação e diz que as passagens de Empédocles não são realmente vazias, mas contêm uma substância muito sutil (Philop. in GC 178.2-5 [DK31 A87; ≠ LM]).

O Χάος de Hesíodo

Outro trecho interessante é uma interpretação de Hesíodo proposta no tratado peripatético *Sobre Melisso*:

πρῶτον μὲν οὖν τοῦτο πολλοῖς οὐ συνδοκεῖ, ἀλλ' εἶναι τι κενόν, οὐ μέντοι τοῦτό γε τι σῶμα εἶναι, ἀλλ' οἷον καὶ ὁ Ἡσίοδος ἐν τῇ γενέσει πρῶτον τὸ χάος φησὶ γενέσθαι, ὥς δέον χώραν πρῶτον ὑπάρχειν τοῖς οὕσιν· τοιοῦτον δέ τι καὶ τὸ κενόν οἷον ἀγγεῖόν τι, <οὗ τὸ> ἀνὰ μέσον εἶναι ζητοῦμεν. (Ps.-Arist. MXG 2.26 976b14-18 [< DK30 A5])

Em primeiro lugar nem todos concordam com isso [*i.e.* que, por não haver vazio, tudo se move trocando de lugar], mas [alguns pensam] haver algo vazio, sem que isso seja um corpo, mas tal como também Hesíodo, na geração [do mundo], diz surgir primeiro o Caos, como se fosse preciso existir primeiro um espaço para as coisas que são. E o vazio é algo deste tipo, como um recipiente, cujo meio buscamos (?).²²

O autor do tratado sugere que o Χάος (*abismo, lacuna, separação, abertura*) de Hesíodo deve ser interpretado como uma espécie de *espaço primordial* (χώραν πρῶτον) no qual surgirão as demais coisas – inicialmente Terra, como a sede dos deuses imortais²³

²¹ Segundo esse mesmo testemunho, aliás, Demócrito teria indicado que uma das formas possíveis dos átomos seria a *côncava* (κοῖλα) (cf. Simpl. in Cael. 295.17).

²² Esta última frase (<οὗ τὸ> ἀνὰ μέσον εἶναι ζητοῦμεν) é estranha. O texto parece estar corrompido. A correção de Diels (οὗ τὸ) supõe que este meio seja o conteúdo do recipiente, sugerindo, ao que parece, que se trata das coisas que são e que estão dentro dele.

²³ Esta ideia da terra como sede concorda com a cosmologia egípcia descrita por Hecateu, que vimos acima.

e, abaixo dela, nas suas profundezas, o Tártaro (*cf.* Hes. *Th.* 116-119 [LM2 T11.116-119; ≠ DK]) – e conclui dizendo que o vazio é uma espécie de recipiente (ἀγγεῖόν τι).

Esse trecho de *MXG* está claramente retomando uma passagem do início da discussão de Aristóteles sobre o lugar em *Phys.* 4.1, onde ele cita Hesíodo. O capítulo começa com Aristóteles listando uma série de motivos pelos quais a investigação sobre o lugar é importante e, em especial, indícios de que exista algo como o lugar e de que ele tem papel destacado no chamado movimento local. A certa altura, ele acrescenta como um desses indícios a noção de vazio e esta é também a primeira ocasião em que ele sugere que o vazio deve ser entendido como um lugar privado corpo:

ἔτι οἱ τὸ κενὸν φάσκοντες εἶναι τόπον λέγουσιν· τὸ γὰρ κενὸν τόπος ἂν εἴη ἐστερημένος σώματος. (Arist. *Phys.* 4.1 208b25-27 [WL 30.4; ≠ DK])

Além disso, aqueles que alegam existir o vazio falam de lugar, pois o vazio seria um lugar privado de corpo.

Na sequência ele menciona e cita Hesíodo:

ὅτι μὲν οὖν ἐστὶ τι ὁ τόπος παρὰ τὰ σώματα, καὶ πᾶν σῶμα αἰσθητὸν ἐν τόπῳ, διὰ τούτων ἂν τις ὑπολάβῃ· δόξειε δ' ἂν καὶ Ἡσίοδος ὀρθῶς λέγειν ποιήσας πρῶτον τὸ χάος. λέγει γοῦν πάντων²⁴ μὲν πρότεστα χάος γένηται, αὐτὰρ ἔπειτα γαῖ' εὐρύστερνος,

ὥς δέον πρῶτον ὑπάρξαι χώραν τοῖς οὖσι, διὰ τὸ νομίζειν, ὥσπερ οἱ πολλοί, πάντα εἶναί που καὶ ἐν τόπῳ. (Arist. *Phys.* 4.1 208b27-33 [≠ DK])

Por causa dessas coisas, pode-se supor que o lugar seja algo além dos corpos e que todo corpo perceptível seja em um lugar. E também Hesíodo pareceria falar corretamente quando faz do Caos o primeiro. Pois ele diz que

*De todas as coisas a primeiríssima a surgir foi o Caos e, em seguida,
A Terra de amplos seios,*

como se devesse existir primeiro um espaço para as coisas que são, porque pensava, tal como a maioria, que todas as coisas são em um onde e em um lugar.

Aristóteles concede a Hesíodo a posição de representar o senso comum (οἱ πολλοί) com uma ideia de que é preciso haver um *espaço* (χώραν), que depois ele designará como sendo um *onde* (που) em que as coisas possam existir, ou seja, um lugar (τόπῳ). Ele se mostra ainda maravilhado (ironicamente, claro, pois ele discorda desta concepção) com a potência deste lugar primordial:

εἰ δ' ἐστὶ τοιοῦτο, θαυμαστή τις ἂν εἴη ἡ τοῦ τόπου δύναμις καὶ προτέρα πάντων· οὗ γὰρ ἄνευ τῶν ἄλλων οὐδὲν ἐστιν, ἐκεῖνο δ' ἄνευ τῶν ἄλλων, ἀνάγκη πρῶτον εἶναι· οὐ γὰρ ἀπόλλυται ὁ τόπος τῶν ἐν αὐτῷ φθειρομένων. (Arist. *Phys.* 4.1 208b33-209a2 [≠ DK])

²⁴ Na *Teogonia* v. 116 lê-se ἦτοι (*verdadeiramente*) onde Aristóteles diz πάντων (*de todas as coisas*).

Mas se é assim, a potência do lugar seria espantosa e anterior a todas as coisas: pois aquilo sem o que nenhuma das outras coisas existe, mas que existe sem as outras coisas, deve ser necessariamente a primeira. Pois o lugar não é destruído quando as coisas nele são desfeitas.

A concessão a Hesíodo prossegue, portanto, para a ideia de que a única razão plausível para colocar Caos como o primeiro dos deuses é a necessidade de uma espécie de *sede* para as demais coisas existirem, assim como Terra será a “sede firme” dos deuses produzidos em seu seio (cf. Hes. *Th.* 117-118). Ao mesmo tempo, seu caráter *imortal* e *imperecível*, concede ao Caos o estatuto de *princípio cosmogônico*, que se tornará *cosmológico* na sua versão leucipiana.

Segundo Beekes (2010, p. 1614), embora a conexão etimológica entre χάος e χώρα, estabelecida desde a antiguidade por Aristóteles, tenha sido eventualmente questionada em favor de uma conexão com χάσμα (*buraco, abismo, lacuna*), a inegável relação de χάος com χαῶνος (*poroso, solto, esponjoso, inflado*, e, metaforicamente, *vazio, frívolo*) sugere que os dois sentidos convergem.²⁵ Em outras palavras, é como se χάος fosse capaz de unir numa única palavra tanto um sentido *figura*, isto é, o contorno que demarca um grande abismo, quanto um sentido *fundo*, ou seja, o que há no interior deste grande abismo: um imenso espaço vazio.

Nas *Aves* de Aristófanes também encontramos uma breve teogonia que envolve Caos (v. 693-702). Nela, diferentemente do que se passa na *Teogonia* de Hesíodo, Caos é listado como uma de quatro divindades primordiais, junto com Noite, Érebo e Tártaro. Neste relato, nos é dito que Caos tem duas características: *ser escuro* e *ser alado* como Eros, que vem para uni-lo ao Tártaro. Há ainda outra ocorrência da palavra em Av. 1218, mas ali ela tem o sentido trivial de *região, país, espaço*, exceto por um pequeno detalhe: é que, por se tratar de uma cidade nos céus, não se pode falar em *terra*, de modo que isso talvez sirva para realçar o sentido espacial de χάος.

Já nas *Nuvens*, Aristófanes parece contar Caos entre divindades “aéreas” junto com as próprias Nuvens, o Ar, o Éter e a Respiração, além da Língua, que não é propriamente aérea, mas talvez compartilhe com as demais divindades invocadas por Sócrates de uma certa sutileza (Ar. *Nub.* 264-266, 424, 627), isso sem falar que ela é a origem das palavras que se propagam como som através do ar. O sentido irônico talvez seja justamente o da falta de substância desses deuses e deusas. O Sócrates das *Nuvens* passa boa parte do seu

²⁵ Cf. também Beekes, 2010, p. 1616-1617 (χάσκω – *escancarar, abrir [a boca] de modo amplo, bocejar*), 1634-1635 (χῆρας – *fissura*), 1654-1655 (χώρα).

tempo suspenso numa cesta para ficar mais próximo do céu (*cf.* v. 216-217) e essas divindades são patronas dos pensadores e dos ociosos (v. 316). Embora figure entre tais divindades “aéreas”, Caos não deve ser confundido com o Ar, pois este, junto com a Respiração, já estão listados como entidades distintas. Cabe, portanto (e assim parecem entender tanto LSJ quanto Beekes, 2010, p. 1614), a hipótese de que Caos corresponda, também para Aristófanis, a uma espécie de *nada*, um *espaço vazio* (e que talvez inspire os que não fazem nada ou não têm nada na cabeça).

Por fim, registremos ainda mais duas passagens. A primeira é de uma ode do poeta Baquilides (séc. V aec) que, a certa altura, descreve que o voo da águia de Zeus, que bate suas asas em um *espaço infinito* (ἐν ἄτρυτον χάει), por onde, aliás, circula o vento oeste, no qual ela parece surfar (Bacchyl. 5.26-30). Vale ainda classificar o infinito sugerido por ἄτρυτον, que tem o sentido de *inabalável*, *eterno* e, portanto, *imutável*. Além disso, há aqui, mais uma vez, uma aparente relação com o ar, pois o ar é o meio por onde a águia de Zeus se move, mas, de novo, não se trata de uma identificação entre χάος e ar, mas χάος é *onde* o vento que a águia surfa se desloca.

A segunda passagem é um testemunho de Aeliano sobre a embriologia de Demócrito (Ael. *Nat. anim.* 12.17 [LM27 D176; DK68 A152]) que diz que os embriões têm mais facilidade de vingarem e nascerem no Sul (onde é mais quente), porque o calor do vento sul *torna mais porosos* (χαυνοῦσθαι) e relaxados os corpos das fêmeas grávidas. Esse estado relaxado resultante da porosidade, por sua vez, *facilita a movimentação* (πλανᾶσθαι) do embrião pelo corpo e eventualmente o seu nascimento.

Χώρα e seus Derivados

Χώρα é um termo curioso. Embora fosse extremamente comum e seja utilizado até hoje no grego moderno para se referir a coisas banais como *território*, *país*, *região*, *espaço*, *lugar*, o *centro de um vilarejo* etc., o que indica que o seu uso dificilmente geraria dificuldades de compreensão para um falante normal da língua, na filosofia, ao que tudo indica, por causa de sua aparição especial no *Timeu* de Platão, χώρα parece ter se convertido de algo óbvio e de fácil apreensão para um conceito fugidio e complexo, ao menos entre nós modernos.

Digo ‘entre nós modernos’ porque talvez esta celeuma ainda não estivesse completamente colocada à época em que Aristóteles escreveu as passagens da *Física* com que estamos lidando (e aquelas em que a χώρα platônica é mencionada). Não quero

insinuar com isso um juízo sobre a interpretação de Aristóteles da χώρα platônica, apenas que, talvez, uma boa forma de entender o que Aristóteles está dizendo sobre a χώρα no contexto da discussão sobre lugar e vazio na *Física* (e a despeito do que Platão possa ter querido dizer) é pensar que ele lê o termo da maneira mais trivial possível, colocando entre parêntesis a questão espinhosa da χώρα platônica.

E a maneira mais trivial possível é tratar χώρα como um *espaço* e, conseqüentemente um tipo de lugar, tal como ele sugere no excuro sobre o Caos de Hesíodo. É justamente isso que ele diz na passagem abaixo:

διὸ καὶ Πλάτων τὴν ὕλην καὶ τὴν χώραν ταὐτό φησιν εἶναι ἐν τῷ Τιμαίῳ· τὸ γὰρ μεταληπτικὸν καὶ τὴν χώραν ἐν καὶ ταὐτόν. ἄλλον δὲ τρόπον ἐκεῖ τε λέγων τὸ μεταληπτικὸν καὶ ἐν τοῖς λεγομένοις ἀγράφοις δόγμασιν, ὅμως τὸν τόπον καὶ τὴν χώραν τὸ αὐτὸ ἀπεφώνητο. λέγουσι μὲν γὰρ πάντες εἶναι τι τὸν τόπον, τί δ' ἐστίν, οὗτος μόνος ἐπεχείρησεν εἰπεῖν. (Arist. *Phys.* 4.2 209b11-17)

É por isso [i.e., porque ao se subtrair a forma, o que resta é a matéria] que também Platão diz no *Timeu* que matéria e espaço são a mesma coisa. Pois “o participativo”²⁶ e o espaço são um e o mesmo. E embora ele tenha falado do participativo de outro modo lá nas chamadas “doutrinas não escritas”, ainda assim ele declarou que lugar e espaço são o mesmo. Pois todos dizem que o lugar é alguma coisa, mas somente ele tentou dizer o que ele é.

Ora, se matéria e espaço (χώρα) forem a mesma coisa e essa coisa é o *participativo* (μεταληπτικόν), isso pode sugerir que Aristóteles esteja entendendo que o mecanismo de participação pela mescla das formas com a χώρα seja um modo de instanciar as formas – que são objetos noéticos – no mundo físico. Basta que ele esteja entendendo a χώρα como uma espécie de lugar primordial, tal como o Caos de Hesíodo, ou seja, compreendendo que todas as coisas concretas que são no mundo o são em algum lugar e que o modo pelo qual essas coisas vêm a ser no mundo envolve, de algum modo, a instanciação física das formas eternas e imortais. Pois no mundo não há forma *separada* (χωριστός) da matéria (Arist. *Phys.* 4.2 209b30-31).

O termo *χωριστός* (*separado, separável*) é importante não só porque demarca esta característica fundamental da relação entre forma e matéria (e, de quebra, demonstra nesta mesma passagem porque o lugar não pode ser uma forma), mas por ser ele mesmo um derivado de χώρα. Se χώρα pode ser entendida como um espaço, então ser separado deve designar algo que não está no mesmo espaço que outra ou outras coisas. E ser separável deve designar a possibilidade de algo deixar um certo espaço compartilhado.

²⁶ Esta é a tradução sugerida por Reeve (2018) para μεταληπτικόν, aquilo que é capaz de participar da forma.

O problema, porém, em torno da *χώρα* platônica não parece ser o do eventual lugar onde as formas existiriam independentemente das coisas, mas antes o modo pelo qual as formas seriam capazes de se instanciar no mundo sem uma matéria, já que um suposto espaço (subentende-se vazio) não pode ser a matéria das coisas, pois lhe faltaria estofo, e nem a forma seria capaz de atuar como causa material. Em outras palavras, a acusação que Aristóteles poderia estar fazendo a Platão seria a de uma hipervalorização da forma ao ponto de ela ser responsável, de algum modo, até mesmo pela matéria das coisas (no caso *o grande e o pequeno*; cf., por exemplo, Arist. *Metaph.* A.6 987b18-22), já que isso não poderia ser extraído da *χώρα*. Ou seja, se há *χώρα* e formas, então é preciso haver ainda uma terceira coisa, matéria.

Voltando aos “pré-socráticos”, a maior parte das diversas ocorrências de *χώρα* e seus derivados em testemunhos e fragmentos têm os sentidos triviais de sempre, como, por exemplo, o de *país* ou *região* onde vive uma determinada pessoa que desenvolve uma doença num testemunho de Pseudo-Plutarco sobre Alcmeon (Ps.-Plut. *Plac. phil.* 5.30.1 [= Aët. 5.30.1; DG 442; LM23 D30; DK24 B4; cf. Stob. *Flor.* 4.37.2]) ou dois versos de Empédocles em que ele usa as expressões *ἀσυνήθεια χώρον* (*lugar desacostumado?* – LM22 D14 [DK31 B118]) e *ἀτερπέα χώρον* (*lugar sem alegria* – LM22 D24.1 [DK31 B121.1]). Temos ainda um testemunho de Estobeu sobre a formação de relâmpagos, raios, trovões e tempestades em Demócrito (Stob. *Ecl.* 1.29.1 [= Aët. 3.3.11; DG 369; < LM27 D117; DK68 A93]), onde se diz que, na formação do relâmpago, sementes de fogo convergem através de *interstícios* (*ἄραιωμάτων*) onde há *muito vazio* (*πολυκένων*). Tempestades com raios ocorrem quando agregados de fogo contendo muito vazio se encontram confinados em *áreas com muitos vazios* (*ἐν πολυκένοις ... χώραις*).

Um verbo derivado de *χώρα* importante para a discussão do vazio é *χωρεῖν*, que significa *dar lugar para outra coisa, ceder espaço, retirar, sair*, ou mesmo *mover-se, viajar*, sempre preservando a ideia de que uma coisa que se move se move de um lugar para outro ou então se move em um espaço. Um pouco dessa ideia parece estar presente quando, em *Phys.* 4.1 208b6-8, Aristóteles, falando ainda sobre a noção de lugar segundo o senso comum, fala de *τόπος τι καὶ χώρα* como equivalentes e candidatos a *términos* (*de que e para que*) do movimento em que uma porção de água substitui o ar que estava em um recipiente.

Em Ps.-Plut. *Strom.* 4 (> LM8 D23; < DK21 A32), *χωρεῖν* é utilizado para explicar que a terra que se deposita continuamente no rio eventualmente *vai* (*χωρεῖν*) para o mar. Ou seja, ela *deixa um lugar e vai para outro*. O verbo também ocorre numa passagem do

Crátilo (402a [LM9 D65c; < DK22 A6]) de Platão em que Sócrates atribui a Heráclito o dito πάντα χωρεῖ, normalmente traduzido por “tudo flui” (cf. Diels e Laks & Most, por exemplo), o que é curioso, pois não se trata do verbo ῥεῖ, que sugeriria que tudo *escorre* como um fluido, mas χωρεῖ, que significa mais propriamente *dá lugar a outra coisa* e se quadra muito bem com a sequência da frase em que Sócrates diz οὐδὲν μένει (*nada permanece*). É provável que os tradutores sejam levados a atribuir o sentido de fluir para χωρεῖ por causa da associação que Sócrates faz logo em seguida com o famoso fragmento do rio e diz ποταμοῦ ῥοή (*o fluir de um rio*).

Mas o trecho mais interessante sem dúvida é do fragmento em que Melisso nega a existência do vazio:

οὐδὲ κενεόν ἐστιν οὐδέν· τὸ γὰρ κενεόν οὐδέν ἐστιν· οὐκ ἂν οὖν εἴη τό γε μηδέν. οὐδὲ κινεῖται· ὑποχωρῆσαι γὰρ οὐκ ἔχει οὐδαμῇ, ἀλλὰ πλέων ἐστίν. εἰ μὲν γὰρ κενεόν ἦν, ὑπεχώρει ἂν εἰς τὸ κενόν· κενὸν δὲ μὴ ἐόντος οὐκ ἔχει ὅκη ὑποχωρήσει. (*apud Simpl. in Phys.* 112.6-10 [< LM21 D10; < DK30 B7])

Nem há nenhum vazio. Pois o vazio é nada. Então, o que é nada não poderia ser. Nem [o-que-é] se move. Pois não tem para onde retirar-se, posto que é cheio. Se, pois, então, o vazio fosse, [o-que-é-cheio] se retiraria para o vazio. Mas o vazio não sendo, [o-que-é-cheio] não tem para onde retirar-se.

Melisso utiliza o verbo ὑποχωρεῖν para indicar o que aconteceria caso houvesse vazio. Se houvesse vazio, o-que-é acabaria movendo-se para lá – um lugar, portanto, – porque haveria lugar para ele. Alguém poderia dizer “subentende-se, então, que o vazio não é cheio”, mas isso não precisa estar subentendido, pois obviamente o vazio não é cheio, pois cheio e vazio são contrários. Melisso prossegue:

πυκνὸν δὲ καὶ ἀραιὸν οὐκ ἂν εἴη· τὸ γὰρ ἀραιὸν οὐκ ἀνυστὸν πλέων εἶναι ὁμοίως τῷ πυκνῷ, ἀλλ’ ἤδη τὸ ἀραιόν γε κενεώτερον γίνεται τοῦ πυκνοῦ. κρίσιν δὲ ταύτην χρὴ ποιήσασθαι τοῦ πλέω καὶ τοῦ μὴ πλέω· εἰ μὲν οὖν χωρεῖ τι ἢ εἰσδέχεται, οὐ πλέων· εἰ δὲ μήτε χωρεῖ μήτε εἰσδέχεται, πλέων. ἀνάγκη τοίνυν πλέων εἶναι, εἰ κενὸν μὴ ἔστιν. εἰ τοίνυν πλέων ἐστίν, οὐ κινεῖται. (*apud Simpl. in Phys.* 112.10-15 [< LM21 D10; < DK30 B7])

E [o-que-é] não seria denso ou raro. Pois não é possível que o raro seja cheio do mesmo modo que o denso, mas o próprio raro deve se tornar mais vazio que o denso. Mas a distinção entre ser cheio ou não cheio deve ser feita [assim]: se nem dá lugar, nem recebe para dentro de si, é cheio. É necessário, portanto, que [o-que-é] seja cheio, se não houver vazio. Logo, se [o-que-é] é cheio, não se move.

Melisso sugere que a característica relativa entre o raro e o denso é a presença ou não de *mais vazio* (κενεώτερον). A implicação é que ele também nega a existência de uma variação de densidade, pois nega o vazio. O que essa passagem está sugerindo é que

variações de densidade implicariam na existência do vazio. Portanto o-que-é é cheio e o é de maneira total.

Melisso está negando a possibilidade de movimento em dois aspectos. A primeira é pelo que Aristóteles chamará de *vazio separado* (κεχωρισμένον – *Phys.* 4.7 214a19). Isso é o que vimos na primeira parte em que ele diz que, se houvesse um vazio deste tipo, o cheio tenderia a mover-se para lá, por causa da liberação de um *espaço de circulação*. A segunda é pela diferença de densidade, que implica em um *vazio não-separado* (ἀχώριστον, *Arist. Phys.* 4.7 214a19) ou *interno*. Havendo diferença de densidade isso poderia gerar um tipo de movimento de penetração em que uma coisa menos cheia (isto é, rara) *recebe em si* (εἰσδέχεται) e *dá lugar* (χωρεῖ) para uma coisa mais cheia, isto é, densa. A diferença entre esses dois tipos de movimento parece estar no verbo que Melisso utiliza. Para o primeiro ὑποχωρεῖν, para o segundo χωρεῖν. É impossível provar, mas talvez, o prefixo ὑπο- queira indicar justamente que, no primeiro caso, o espaço liberado seja absoluto e independente daquilo que se move (que, ademais, é uno), ao passo que no segundo caso isso não é necessário, pois há interpenetração de pelo menos duas coisas.²⁷

Síntese

Aristóteles vê o vazio de seus predecessores como assemelhando-se a um *recipiente* (ἀγγεῖον). Tal semelhança se dá porque obviamente as noções de vazio a que ele foi exposto e a ideia de recipiente têm semelhanças. Mas quais? A principal delas certamente é a função de todo e qualquer recipiente: a *capacidade de receber*, que é denotada pelo termo δεκτικόν. Essa função fica muito óbvia nos termos que estamos usando em português: receber e recipiente, pois, a relação está marcada no radical. Em grego, isso fica mais evidente a partir de outra palavra derivada, tal qual δεκτικόν, do verbo δέχομαι: δοχεῖον, que apareceu tanto como *recipiente*, quanto como *receptáculo*. Δοχεῖον, por sinal, (e variantes) parecem ter sido usados pelo próprio Demócrito não apenas com o

²⁷ Cf., porém, Sedley, 1982, p. 178-179, que sugere que os dois verbos devem ser lidos com o sentido de ‘give way’, ou seja, *ceder*. Não fazer nenhum tipo de distinção entre os dois verbos, porém, ao contrário do que ele diz – que aqueles que interpretam a primeira passagem como sendo espacial ignoram a parte referente ao raro e ao denso –, não só deixa em aberto a questão “por que usar dois verbos, então?” como também torna a parte sobre o raro e o denso redundante. É justamente na segunda passagem que Melisso muda o seu vocabulário para falar do que aconteceria internamente a um corpo qualquer que fosse raro: ele receberia para dentro de si o corpo denso. Não há menção ao ato de receber nem o uso de qualquer termo derivado de δέχομαι na primeira passagem.

sentido concreto de um recipiente físico, mas talvez até num sentido metafórico. O que pode indicar que a noção de um princípio de recepção poderia estar presente em outros domínios para além do físico.

A ideia de recipiente aparece em vários âmbitos da investigação de autores antigos. Palavras do campo semântico de ἀγγεῖον e δοχεῖον como κοῖλος e κοιλία aparecem muito em descrições fisiológicas, geológicas, cosmogônicas e cosmológicas, e até mesmo como princípios elementares gerais de uma física empedocleana “atomicizada”. Nos alimentamos através de um órgão *oco* capaz de receber e processar alimentos. Os nutrientes, por sua vez, se distribuem pelo corpo por causa de uma rede de pequenos *vasos* intercomunicantes que *realizam o transporte* de nutrientes e do ar que respiramos (com o auxílio de outro órgão *oco* fundamental – o pulmão) para todas as partes do corpo. De modo semelhante, se a água brota do chão é porque abaixo do chão existem como que reservatórios de água, *redes ocas de túneis* por onde a água passa movimentando-se o tempo todo. Movimento que, aliás, é capaz de desestabilizar a própria terra, provocando terremotos. De modo análogo, o fogo por trás do raio e do relâmpago circula por entre as nuvens, encontrando caminho nos *espaços* livres até se concentrar nas *regiões* (χώραι) mais abundantes em vazios. E a própria formação do mundo depende do movimento de massas fluidas de líquidos e gases que são capazes até mesmo de escavar e moldar a terra por onde passam. Líquidos e gases, por sua vez, são definidos pela maior ou menor presença de um princípio análogo aos diferentes tipos de ocos que ocorrem no mundo.

Um recipiente é por definição um oco, ou seja, um vazio que pode vir ou não a ser cheio. O oco, por sua vez, é uma região tridimensional, um volume sem massa. É muito difícil não reconhecer nisso, nem chamar essa *ausência* de espaço. A presença dessas noções em diversos exemplos sugere que, contra Sedley, há, sim, uma noção subjacente de espaço entre os antigos. E não apenas isso, pois, como fica evidente pelo exemplo do Caos de Hesíodo, parece haver uma preocupação de que as coisas, para existirem, precisam de um certo *espaço* (χώρα) em que possam estar. A possibilidade de um vazio parece emergir justamente da compreensão de que esse espaço não é parte nem dependente das coisas que o ocupam. Deverá, portanto, ser *separado* (χωριστός, κεχωρισμένον) das coisas que nele estão. Isso diverge, claro, da proposta aristotélica para o lugar – divergência que ele mesmo deixa muito clara – mas tal espaço pode, se não em experiência, ao menos em tese ser pensado como um lugar ou região em que não há corpo (daí a definição de Aristóteles de vazio ser, em certa medida, bastante precisa).

A própria relação de χώρα com χωρισμός (separação) demanda uma noção de espaço, uma vez que χωρισμός separa duas *regiões* (χώραι) de um espaço, de modo que o sentido de separação empregado por Platão ao falar das formas, independentemente do estatuto ontológico das mesmas, já é por si só metafórico: separa o que pertence ou não ao domínio das coisas que se encontram *no* espaço (ou no Caos de Hesíodo para os crentes).

Há também, porém, e, diante das analogias fisiológicas, talvez primariamente, um *vazio não-separado* (ἀχώριστον), que é o vazio encerrado no ventre dos seres vivos, na terra e nas nuvens, e também o vazio do que é raro, leve e sutil. Para esses, a noção de recipiente funciona perfeitamente, porque um recipiente é algo delimitado, com bordas, que limitam e demarcam aquilo que ele contém.

Na verdade, o próprio vazio separado pode compartilhar também desta característica que é a presença dos limites. Para muitos pensadores antigos, o cosmos é limitado e as coisas que nele existem estão efetivamente ali contidas. Mas há uma outra corrente que pensa em um ilimitado, infinito, indeterminado, começando em Anaximandro e culminando, em Leucipo e Demócrito. Ainda assim, mesmo um vazio ilimitado e infinito como o de Demócrito não perde a característica principal de um recipiente que é a de *ser capaz de receber*. Ele recebe os átomos, tanto no sentido de ser o palco onde eles atuam, quanto no sentido de que não impede sua atuação (isto é, sua movimentação).

Entretanto, diante da analogia com a noção de recipiente, parece ser mais razoável supor que Aristóteles parte primeiro da noção de um vazio interno e limitado, porque ela tende a ser mais compreensível e menos controversa do que a de um vazio separado e ilimitado, a respeito do qual pesarão as dificuldades que ele elencou em sua discussão sobre o infinito (*Phys.* 3.4-8).

Por outro lado, isso que é chamado de vazio também figura como uma negatividade elementar, primeiramente do que é corpo, mas também com outras possibilidades, opondo-se talvez à própria necessidade de determinação, como as negatividades não espaciais associadas ao vazio ou à noção de recipiente que aparecem, como vimos, em Demócrito, mas também em Filolau.²⁸

²⁸ O presente trabalho foi realizado com apoio da Coordenação de Aperfeiçoamento de Pessoal de Nível Superior – Brasil (CAPES) – Código de Financiamento 001. Quero deixar também um agradecimento aos pareceristas que analisaram minha submissão por sua leitura atenta e críticas

Gustavo Laet Gomes
Universidade Federal de Minas Gerais

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importantes que contribuíram para deixar o texto mais objetivo e correto. Eventuais erros que ainda restarem são naturalmente de minha inteira responsabilidade.

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Aristotelian Biology and Christian Theology in the Early Empire

Introduction

Christopher Austin

Vito Limone

Anna Marmodoro

In recent years, the scholarly literature on late antiquity has seen an increase in studies which examine the interaction and mutual influence between philosophy and early Christianity in the imperial era. These studies have demonstrated not only that the early Christians' biblical hermenutics and theological speculations owe many conceptual debts to the scientific and philosophical milieu of their time, but that there was a reflexive and constructive dialogue in particular between the Church and the Academy.

Although it is certainly true that the majority of Christian interest in late antiquity is centred on Plato (or better, Platonism of one form or another), recent scholarship has however made it clear that Aristotle and the Peripatetic tradition at large also played a vital role in the formative groundwork for early Christian theological ideas. Despite the recent attempt to shed more light on the Aristotelian influences which are discernible in the doctrines of ancient Christianity, much work remains to be done. One area of special interest in this field of research that is yet largely unexplored is the reception of Aristotle's biological corpus – *History of Animals*, *On the Parts of Animals*, *On the Generation of Animals*, *On the Soul*, *et alia* – in imperial era Christian theology. This represents a significant lacuna in the scholarship, as the pillars of Aristotle's metaphysical system are firmly planted in the philosophical framework developed in his empirical research on the history, generation, and persistence of living organisms.

The chief aim of this special issue is to contribute to filling this gap by offering a set of articles that are focused on the circulation and use of Aristotelian biological texts and doctrines in the early developmental period of Christian theology, with a particular focus on the period of the first to the fifth century A.D.; more specifically, the period that stems from the apostle Paul of Tarsus to the bishop Nemeseus of Emesa – broadly speaking that is, to the early imperial era.

There are however two important methodological *caveats* to any study which attempts to establish the extent of Aristotle's philosophical influence on Christian theology that should be noted: firstly, that Aristotle's biological writings were relatively limited in their circulation, and hence, not entirely familiar among authors in the early empire, and secondly, that there was a strong tendency in later Christian thought to discredit the work of Aristotle (and Aristotelianism more generally). With respect to the first caveat, it is well known that, perhaps due to the prevailing significant influence of Platonic metaphysics, the philosophical schools of late antiquity devoted a particular attention to the works of the Aristotelian corpus which fall within the fields of metaphysics, logic, and physics, while nearly ignoring its biological treatises; save of course, *On the Soul*, whose subject was (and still is to this day) widely considered to be a combination of both physics and metaphysics, rather than biology. With respect to the second, this is a tendency rooted in there being a great deal of fundamental philosophical objections which the early Christians had with the doctrines of Aristotle and the Peripatetic tradition – most notably, the mortality of the soul, the eternality of the universe, and the primacy of genera and species (rather than individual beings) in receiving divine providence in Aristotelian metaphysics.

Nevertheless, with these caveats in mind, this special issue intends to provide evidence of the utilisation of Aristotelian biology in early Christian thought. In doing so, this collection of original papers has two aims: to contribute to the understanding of the reception of Aristotelian biology in late antiquity through the exploration of Christian theological texts, and to tease out in more detail the myriad ways in which the early Christian tradition is philosophically indebted to Aristotle's theory of organisms and the living world. Thus the scholarly work contained in this special issue concerns both the history of philosophy in late antiquity and the early Christian period, as it is focused on the transmission of the Aristotelian biological corpus in the ancient Christian theological tradition as well as the evidential case for the former's philosophical influence on the latter.

The first issue raised in this collection of articles is why at some point in the history of ideas Plato's and Aristotle's conceptions of the soul, came to be presented as if meshed into a single view: were the early Christian thinkers responsible for this misguided interpretation? Far from, argues Sophia Connell. In her paper, Connell identifies a reading of *the* most famous passage from Aristotle's entire biological corpus (in the *On the Generation of Animal*, where Aristotle remarks that "intellect [*nous*] alone enters from outside"), which became historically dominant and established a dualistic interpretation of Aristotle's views on soul and body. Such dualistic reading is what in turn allowed for a jointing together of Platonic and Aristotelian doctrine on the soul, which was been influential in the history of ideas. This reading however misrepresents Aristotle's position. After explaining how the pivotal passage from *On the Generation of Animal* and two other related texts have been misunderstood by various interpretative traditions, Connell offers her account of the actual import of Aristotle's stance that "intellect (*nous*) alone enters from outside" in its relevant context, namely Aristotle's mature biological thought and in particular his embryology. Connell further shows how the early Christian writers, freed as they were from any philosophical imperative to synthesize Aristotle's and Plato's thought, had in fact an accurate grasp of Aristotelian psychology. While realizing that Aristotle's position would not aid them in their explanation of the soul's survival after death, the early Christians' engagement with Aristotle's science helped them with other aspects of theology concerning the fittingness of soul to body. In closing, Connell argues that early Christian thinkers' sensitivity to Aristotelian science enable them to utilize his embodied psychology in their anthropology.

Anne Siebels Peterson and Brandon R. Peterson examine the early Christians' approach to the soul-body problem from a different point of view. They examine how Aristotle and St. Paul, respectively, accounted for the coming to be of a living body and its passing away. While they do not make any claim that Paul explicitly relied on Aristotle, Anne and Brandon Peterson identify parallel dilemmas in the two thinkers, despite their profound differences, and show how they addressed them with the same conceptual move. Both Paul and Aristotle point their readers toward accounts of bodily development which refuse to collapse into either identity with the past or discontinuity between past and future – Paul and Aristotle insist on both. Such insistence is plausible on each of their accounts because they advance a shared conceptual shift away from prioritizing the temporal order of bodily change and toward a type of teleological order

which they claim “privileges a greater whole”. Paul’s emphasis on the Christologically-centred understanding of the Adamic status of Jesus as the *first man*, Peterson and Peterson point out, is grounded not in his *temporal* priority, but in a conception of the Christ as the goal, or end-point of humanity’s spiritual and ontological development. This Pauline theological move, they argue, mirrors the Aristotelian philosophical emphasis on the *telos* of an organism *qua* fully developed, adult end-state as its ontologically prior and metaphysically privileged state of being, despite it being the temporal product – rather than precedent – of its morphological growth.

Teun Tieleman investigates the views on the soul of an influential early Christian thinker, Nemesius, bishop of Emesa in Syria towards the end of the IV century A.D. In his treatise *On Human Nature*, Nemesius canvasses his conception of the soul and of its relation to the body drawing not only on Christian authors but on a variety of pagan philosophers such as Plato, Aristotle, the Stoics and the great physician-cum-philosopher Galen of Pergamum. In this article Tieleman concentrates on the question of which impact Aristotle made on Nemesius’s thinking. Was it mediated or direct? Why does Nemesius cite Aristotle and how? Tieleman focuses on Nemesius’ references to Aristotle’s biology in particular, examining a number of passages in Nemesius’ work in the light of Aristotle’s *Generation of Animals* and *History of Animals* as well as the doxographic tradition. The *trait d’union* among these passages are the themes they cover: the status of the intellect, the scale of nature, and the respective roles of the male and female in reproduction. Tieleman’s research results contribute not only to the specific remit of this special issue concerning the relationship between early Christian thought and Aristotle’s biology, but are more broadly contributing to new approach to Nemesius’ work. Long used as a source for earlier works now lost, Nemesius’ work is shown in this article to provide intriguing glimpses of the intellectual culture of the author’s time, which would be otherwise lost to us and leave a gap in our understanding of this period in the history of ideas.

Broadly with the same approach, Marco Zambon investigates another early Christian thinker, Didymus, active in the Church of Alexandria during the same period in which Nemesius was active in Syria. Zambon investigates which evidence may be gathered from Didymus’ exegetical works (in particular from the lessons on the book of *Psalms* and on the *Ecclesiastes*) of his knowledge of natural sciences and his anthropological doctrine. Based on these texts, Zambon discusses Didymus’ possible sources, raising and addressing a number of questions: What kind of Aristotelian

doctrines can we recognize in Didymus' statements concerning cosmology, biology and anthropology? Is there sufficient evidence to conclude that he had, beside the *Organon*, also a direct knowledge of other Aristotelian works? How important are methods and doctrines coming from Aristotle for Didymus' exegetical practice?

Mingucci's contribution is forward-looking in the sense that it engages with a seminal essay from 1967, by the historian Lynn White, Jr., who argued that today's environmental crisis is ultimately caused by the anthropocentric perspective, embedded in the Christian "roots" of Western tradition, which assigns an intrinsic value solely to human beings. Though White's thesis relies on a particular tradition in reading the *Genesis*, dating back at least to Philo of Alexandria, the idea that the Christian doctrine of creation provided the ideological basis for the exploitation of the nature has proven tenacious, and even today is the ground assumption of the historical and philosophical debate on environmental issues. Mingucci's article investigates which arguments might be given in support an alternative perspective which gives intrinsic value also to the nonhuman content of the natural environment, from a distinctive unique perspective from antiquity – that of Aristotle's philosophy of biology, and in particular his views as presented in passages from *De Partibus Animalium* and the *Politics*.

Christopher Austin (*Durham University*)

Vito Limone (*Università Vita-Salute San Raffaele*)

Anna Marmodoro (*Durham University*)

“*Nous* alone enters from outside”

Aristotelian embryology and early Christian philosophy

Sophia Connell

In a work entitled *On the Generation of Animals*, Aristotle remarks that “intellect (*nous*) alone enters from outside (*thurathen*)”. Interpretations of this passage as dualistic dominate the history of ideas and allow for a joining together of Platonic and Aristotelian doctrine on the soul. This, however, pulls against the well-known Aristotelian position that soul and body are intertwined and interdependent. The most influential interpretations thereby misrepresent Aristotle’s view on soul and lack any real engagement with his embryology. This paper seeks to extract the account of intellect (*nous*) in Aristotelian embryology from this interpretative background and place it within the context of his mature biological thought. A clear account of the actual import of this statement in its relevant context is given before explaining how it has been misunderstood by various interpretative traditions. The paper finishes by touching on how early commentary by Christian writers, freed as it was from the imperative to synthesise Greek philosophy, differed from those that came after. While realising that Aristotle’s position would not aid them in their explanations of the soul’s survival after death, their engagement with Aristotle’s science allowed for other aspects of theology concerning the fittingness of soul to body.

In a work entitled *On the Generation of Animals*, Aristotle writes the following:

(A) Intellect (*nous*) alone remains to enter from outside and it is the one [soul part] that is divine.¹

This truncated and obscure text, the most famous from the entire work, suggests a substance dualism that supports Abrahamic religious doctrine. This statement along with two other related passages from the work have led to a series of misunderstandings which come in part from the separation of such passages from their context in Aristotelian biological thought and in part from a desire to combine Platonic and Aristotelian

¹ λείπεται δὴ τὸν νοῦν μόνον θύραθεν ἐπεισιέναι καὶ θεῖον εἶναι μόνον. Aristotle *On the Generation of Animals* (GA) 2.3.736b27-28. Aristotelis *De Generatione Animalium*, ed. H. J. Drossaart Lulofs, (Oxford: Clarendon Press, 1965), 61. All line numbers in Aristotle follow *Aristotelis Opera ex Recensione Immanuelis Bekkeri Edidit Academia Regia Borussica Accedunt Fragmenta Scholia Index Aristotelicus*, ed. I. Bekker, 5 vols. (Berlin: Georgium Reimerum, 1831-1836).

doctrines. In contrast with these traditions, early Christian thinkers tended to realise the centrality of the body for Aristotle and so had a different viewpoint on these texts. While recognising that Aristotle should not be used to support substance dualism and personal immortality, they allowed for Aristotelian embodied psychology to illuminate other aspects of Christian theology.

This paper will begin (section I) with a thorough Aristotelian analysis of the passages on ‘*nous* *thurathen*’ in the context of Aristotle’s biology, explaining why they cannot fit Aristotle’s view on the separability and divinity of ‘intellect’ (*nous*). Section (II) gives an account of why he raised the question in the first place and its probable import. The third section (III) will set out four main misrepresentations of Aristotle on intellect in his embryology and trace their history of misinterpretations, with the exception of certain early Christian thinkers, who do not wish to adopt Aristotle as part of their own doctrine on the soul. Section (IV) will consider what role, if any, Aristotle’s view of the importance of the body in the development and existence of human beings played in early Christian theology.

I – *Analysis of passages from Aristotle’s On the Generation of Animals in their embryological and psychological context*

The same portion of *On the Generation of Animals* which provide us with passage (A) also contains the following oft-quoted passage:

(B) For in all cases, in the seed, there exists that which makes the seed fertile, the so-called hot. This is not fire or a power of that sort, but is *pneuma* which is enveloped in the seed and in the foam, I mean the nature in the *pneuma*, being analogous [to the nature] of the element of the stars.²

Another passage which will be important is the one that further mentions the special status of intellect (*nous*) as “separable”.

² πάντων μὲν γὰρ ἐν τῷ σπέρματι ἐνυπάρχει ὅπερ ποιεῖ γόνιμα εἶναι τὰ σπέρματα, τὸ καλούμενον θερμόν. τοῦτο δ’ οὐ πῦρ οὐδὲ τοιαύτη δύναμις ἐστὶν ἀλλὰ τὸ ἐμπεριλαμβανόμενον ἐν τῷ σπέρματι καὶ ἐν τῷ ἀφρώδει πνεῦμα καὶ ἡ ἐν τῷ πνεύματι φύσις, ἀνάλογον οὕσα τῷ τῶν ἄστρον στοιχείῳ. Aristotle *GA* 2.3.736b33-737a1 (Drossaart Lulofs, 61)

(C) The principle of soul which departs with the body of the semen, is on the one hand separable (in those which enclose something divine, this is the so-called intellect [*nous*]), on the other hand inseparable. The body of the semen dissolves and evaporates, having a fluid and watery nature.³

Passages (A)-(C) occur in Book 2 of the treatise in the context of Aristotle's declaring a series of puzzles (*aporiai*) for his theory of generation. In Book I Aristotle argues that rival theories which focus on the mixing of materials from parents cannot explain the organised products of generation; instead there must be a power which actively constructs the living body (GA 1.23.723b25-30). The male principle is this efficient cause – the principle of substantial change (ἡ ἀρχὴ τῆς κινήσεως, GA 1.21.729a10; 2.730a27). In Book 2 Aristotle asks: is the fashioning power something that enters from outside and forms the body and then disappears (GA 2.1.734a5-9)? Or does it become a part of the animal (734a13)? How does agency get from the male animal to the offspring and continue to direct development when no longer in contact (733b33-734a3)? The puzzles Aristotle articulates in GA 2.1-3 can be broken down roughly into five as follows.⁴

- a. "How does any plant come to be formed out of seeds or any animal in the same way?" (GA 1.1.733b23-5)
 - i. "Either something external makes them,
 - ii. or else something present in the semen..." (733b33-734a2)
- b. Are all the parts formed at once or one after the other? (734a17)
- c. What is male semen composed of and what are its evident properties? (GA 2.2)
- d. Does the male semen become any part of the animal in the end?
- e. Is "soul... present in the seed (sperma) and fetation (kuēma) to begin with and where [does] it come[s] from"? (GA 2.3.736a29-32)

Our passages emerge from puzzles (a) and (e). The male and female contributions are active and passive potentials to effect substantial generation (GA 1.21.729a28-31; *Ph.* 3.3.202a13-19). For nutritive and sentient capacities, Aristotle resists the idea of soul entering in from outside, which was a view held by almost all other ancient theorists. The

³ Τὸ δὲ τῆς γονῆς σῶμα ἐν ᾧ συναπέρχεται τὸ σπέρμα τὸ τῆς ψυχικῆς ἀρχῆς, τὸ μὲν χωριστὸν ὄν σώματος ὅσοις ἐμπεριλαμβάνεται τι θεῖον (τοιοῦτος δ' ἐστὶν ὁ καλούμενος νοῦς) τὸ δ' ἀχώριται τι θεῖον (τοιοῦτος δ' ἐστὶν ὁ καλούμενος νοῦς) τὸ δ' ἀχώριστον, —τοῦτο τὸ σῶμα τῆς γονῆς διαλύεται καὶ πνευματοῦται φύσιν ἔχον ὑγρὰν καὶ ὑδατώδη. Aristotle GA 2.3. 737a7-12 (Drossaert Lulofs, 61).

⁴ The problems posed are not actually resolved in GA 2.1-3. The main question of how soul gets from father to offspring may not be fully accounted for until GA 2.6. See especially A. Gotthelf, "Teleology and Embryogenesis in Aristotle's *Generation of Animals* II.6." in *Teleology, First Principles, and Scientific Method in Aristotle's Biology* (Oxford: Oxford University Press), 90-116. For a fuller account of these puzzles see S. M. Connell, "How Does a Living Animal Come to be from Semen? The Puzzles of Aristotle's *Generation of Animals* II 1-3," *Life and the Science of Life in Aristotle and Aristotelianism*, ed. in D. Lefebvre (Leiden: Brill, forthcoming).

new animal, with all its eventual capacities, is present potentially in the activated materials and so does not need to enter from outside. But *nous* would seem to present a special case. The gradual development of the bodily parts coincides with the actualisation of nutritive and sentient capacities (GA 2.1.734b22-4), even when the latter may be mainly dormant. But how can we tell when the embryo has (potential, dormant) intellectual soul as the activity of thinking is not the actualisation of any part of the body (GA 1.1.736b28-29)? As it is not directly connected to any developing part of the body, this means it is possible for it to enter “from outside”. If *nous* can enter “from outside” it needs to be able to be (at least at times) separable from the body and the other soul capacities.

In what sense, if any, is it ‘separable’ from the body and the rest of the soul?

There are at least three different ways in which Aristotle’s soul parts, nutritive, sentient and intellectual, could be separable: taxonomically, conceptually and spatially (DA 2.2.413b11-16).⁵ Taxonomically means that there are some entities that have that part without the others, conceptually means they can be defined without references to the other parts, and spatially means that the parts exist in different locations. All three soul capacities are conceptually distinct. Nutritive soul is also taxonomically separate when it occurs in plants (DA 2.2.413a31-3). Sentient soul is not taxonomically separable; it cannot exist without the nutritive soul (DA 2.4.415a23-26; 3.12.434a22-26). The nutritive and sentient souls are not spatially distinct, since they exist simultaneously and co-extensively in those that possess both. Aristotle makes this very clear when he discusses certain insects which remain alive when bisected; ‘the whole soul’ is retained in both animals that result.⁶ This position can be

⁵ Miller gives a four-fold distinction of senses of separable, adding ontological to this list. As I do not see how any part of soul could be ontologically separable, I will not include this sense here (F. D. Miller “Aristotle on the Separability of Mind”, In C. Shields (ed.) *Oxford Handbook of Aristotle* (Oxford: Oxford University Press, 2012), 306-339 at 309). I follow the account of the soul capacities in K. Corcilius and P. Gorgorić, “Separability vs. Difference. Parts and Capacities of the Soul in Aristotle”, *Oxford Studies in Ancient Philosophy* (2010): 81-119.

⁶ Soul is an essential unity that unifies the body (DA 1.5.410b16f.; Cf. DA 1.1.405b25f.; 411a8, 411b19-23; *On Youth and Old Age, Life and Death* 2.468a23-468b16).

contrasted with that of Plato who in the *Timaeus* locates the three parts of soul in three portions of the body: appetites in the belly, spirit in the chest and intellect in the head.⁷

The separability of *nous* remains obscure. Taxonomically, it exists alone in God (i.e. thought thinking itself)⁸; but does it also somehow exist as spatially separable in human beings, since it alone is not centred in the heart and its operations and is not any direct function of bodily parts? Aristotle begins *De Anima* with the thought that “it is likely that all affections (πάθη) of the soul are associated with the body” (*DA* 1.1.403a17-18). A certain type of thinking or reasoning is an unusual case. *Nous* is parallel to sentient soul insofar as its function is to apprehend intellectual objects (sentient soul apprehends sensory objects) (*DA* 3.4.429a16-18). Sensory soul has the bodily sense organs which must be actualised and physically affected in order for sensation to occur. *Nous*, in contrast, does not depend on the body directly in this manner (*DA* 2.1.413a5-6; 3.4.429a26-27; *GA* 2.1.736b28-29). Aristotle mentions this fact in an explanatory (*gar*) clause directly after saying that *nous* enters from outside in Passage (A).

Nous alone remains to enter from outside and it is the one [soul part] that is divine. For its actualisation has nothing in common with the actualisation of the body.⁹

That *nous* does not have a specific bodily organ does not guarantee spatial separability; the common sense and imagination, for example, also do not have bodily organs exclusively for their exercise but are nonetheless dependent on the body.¹⁰ Furthermore, Aristotle thinks of human intellect as, for the most part, intertwined with and dependent on the other soul capacities which are tied to the body. In embryological context, the heart (or its analogue) as the first location of the soul principle, directs the development of the rest of the body (*GA* 2.6.742b35-743a4). For human beings, this will mean the sort of body that can one day think, including the structure of that body (the eventual upright

⁷ Plato *Timaeus* 69d6-70a2. References to Plato follow pagination in: *Platonis Opera Quae Exstant Omnia*, ed. H. Stephanus (Geneva, 1578).

⁸ Aristotle, *Metaphysics* 12.7.

⁹ οὐθὲν γὰρ αὐτοῦ τῇ ἐνεργείᾳ κοινωνεῖ ≤ή≥ σωματικὴ ἐνέργεια. Aristotle *GA* 2.3.736b28-29; Drossaart Lulofs, 61.

¹⁰ S. M. Connell “Thinking Bodies: Aristotle on the Biological Aspects of Human Cognition”, in *Encounters with Aristotle’s Philosophy of Mind*, ed. P. Gregorić and J. L. Fink (London: Routledge, 2021, 223-248 at 230. Charlton makes this point very clear, using the following example: “There is no organ for turning over in bed; nevertheless, there could not be a turner-over-in-bed without a body” (W. Charlton, “The Place of Mind in Nature”, in *Philosophical Issues in Aristotle’s Biology*, eds. A. Gotthelf and J. Lennox (Cambridge: Cambridge University Press, 1987), 408-23 at 417).

orientation, *On the Parts of Animals* 4.10.686a27-32) and the texture of flesh and skin which allow for the most perceptive senses (*DA* 2.9.421a17-26). In a mature human, the nutritive soul continues to maintain parts such as these that support sublunary intelligence.

Furthermore, human intelligence is initially dependent on sentient soul. Thinking soul uses images derived from perception – the so-called *phantasiai* (*DA* 3.7.431a14-15; 431b2; 8, 432a3-10).¹¹ Knowledge comes through the refinement of sensory information, building up experience (ἐμπειρία) in order to eventually form concepts.¹² The first actuality of intellect is the gaining a body of knowledge which is then possessed – the second actuality is bringing that knowledge to bear or exercising it (*DA* 2.5.417a21-b2; Cf. *GA* 2.1.735a12-14). Actualisation at the second level is not directly dependent on perception (*DA* 2.5.417a21-28; 3.4.429b5-9) but is ultimately dependent on the first level which is.¹³ Thus do the texts support an Alexandrian understanding of *nous* entering from outside which is that at this second stage, the productive intellect is required to actualise the human passive intellect and this productive intellect is not in us but “above”.¹⁴

Although all of that makes sense in Aristotelian terms, we are left with other passages that challenge that understanding. In the context of embryology, Passage (C) explicitly says that *nous* is separable:

The principle of soul which departs with¹⁵ the body of the semen, is on the one hand separable (in those which enclose something divine, this is the so-called *nous*), on the other hand inseparable.¹⁶

In his Clarendon commentary, Balme offers the following interpretation of this passage: “the sense is not in doubt: the semen brings with it both disembodied intellect and

¹¹ *De Anima* 3.7.432a7-8: “without having perceived anything one could neither learn anything nor understand anything” (οὔτε μὴ αἰσθανόμενος μηθὲν οὐθὲν ἂν μάθοι οὐδὲ ξυνείη).

¹² Aristotle *Posterior Analytics* 2.19.

¹³ For a more detailed account of the embodiment of intellect see Charlton “The Place of Mind in Nature” and Connell “Thinking Bodies”. In contrast, Balme thinks that human thinking can exist independently of the body. For example, in his comments on *PA* 641a22 about whether *nous* is part of the study of nature, Balme cites *GA* 2.3 as evidence that *nous* “may exist independently of body” (Aristotle, *Parts of Animals*, 89).

¹⁴ For Alexander of Aphrodisias, a person “[b]ecomes immortal when [she] thinks” (H. Davidson, *Alfarabi, Avicenna, and Averroes on the Intellect* (Oxford: Oxford University Press, 1992), 38).

¹⁵ This is the meaning of συναπέρχομαι at *GA* 1.18.725b14.

¹⁶ Aristotle *GA* 2.3.737a7-9. Drossaart Lulofs, 61.

embodied nutritive and sensitive potentialities”.¹⁷ The first problem for this interpretation is that if *nous* is disembodied, then it is hard to see how could it be carried in the *pneuma* in semen, a bodily mixture of elements?¹⁸ As for nutritive and sentient soul, these are also not carried in *pneuma* in semen, since Aristotle is clear that they cannot exist in actuality, until they do so in potentiality (GA 2.3.736b14-15). Since the male semen evaporates and doesn’t come to be any part of the offspring, no soul faculties are present potentially in the male contribution, in the passive sense of eventual development of these faculties. They are present potentially in that sense in the female contribution.¹⁹

Balme turns, as others do, to Passage (B) in speculating about how the male semen can ‘physically’ convey all three soul parts.

For in all cases, in the seed, there exists that which makes the seed fertile, the so-called hot. This is not fire or a power of that sort, but is *pneuma* which is enveloped in the seed and in the foam, I mean the nature in the *pneuma* that is analogous [to the nature] of the element of the stars.²⁰

Connecting Passages (C) and (B), Balme writes

Now he goes on to say that the heat in *pneuma* has the special property of being able to convey soul, including intellect. He does not explain this in physical terms, but judging from 737a18-19 we may guess that he conceived it as conveying of movements superimposed upon the heat’s own movements – perhaps as liquid conveys waves.²¹

¹⁷ Aristotle, *De Partibus Animalium I and De Generatione Animalium I* (with passage from Book II. 1-3), translations and commentary by D. Balme (Oxford: Clarendon, 1992), 164-5.

¹⁸ Others that think that *nous* is carried in male semen include Peck in *Aristotle, Generation of Animals*, trans. A. L. Peck (Cambridge, Mass.: Harvard University Press, 1942): 168-9 and Caston who claims that Aristotle’s hylomorphic view of the generative contributions of male and female forces him to declare that *nous* comes “exclusively” from the male. Since the male contributes form and the female matter, and *nous* does not require the body, it has to come only from the male. There are various difficulties for this view, beginning with the fact that, for human beings, the maternal materials just as much as the male contribution of semen are poised to develop into the sort of body that is eventually able to think. In that sense, thinking is potentially present in the materials. Secondly, if *nous* comes from outside in any sense, it must come from outside the male semen and the embryo, “from outside” in the sense of not really “in” anything until thought happens. As such, it cannot be that it is “already present in the father’s semen” (V. Caston, “Aristotle’s Two Intellects: A Modest Proposal,” *Phronesis* 94/3 (1999), 199-227 at 215).

¹⁹ For a fuller argument along these lines see Connell “How Does a Living Animal Come to be from Semen?”.

²⁰ Aristotle, GA 2.3.736b33-737a1.

²¹ Balme in Aristotle *Parts of Animals*: 164-5.

As Balme admits, Aristotle does not explain this in “physical terms”. The question is elicited by interpreting coming “from outside” as the entry of something either immaterial carried in a material or as something material.

Certain interpreters think that these passages show that *pneuma* in male semen is a fifth sublunary element with special vital powers.²² Some even posit that this means a part of the most divine matter from the upper world is contained in male semen.²³ The latter view is neither expressed nor implied by the passage. While the former view is less far-fetched, it unnecessarily materialises Aristotle’s account of generation. Certainly as a tool the *pneuma* in semen is up to something interesting but its function cannot be reduced to what is composed of.

A brief analysis of Passage (B) will prove useful. The passage draws a comparison, specifically, an analogy.²⁴ Analogies compare items or processes that are similar in certain ways, although they differ in others. Aristotelian analogies often focus on functional similarity. The passage does not say that semen contains *aither* but refers to *aither* as a useful comparison to a tool in the semen. *Aither* is an element which differs from the four elements below the moon, earth, air, fire and water because it moves only in circles, thus facilitating the eternal movement of the heavens (*De Caelo* 1.3). There is no implication that *pneuma* is a sublunary fifth element: the two are compared because of the similarities in the functions that they facilitate and not because they are both elements that differ from the other four. Indeed, *pneuma* is not another element, but rather a balanced mixture of the usual elemental powers.²⁵

²² One line of interpretation is that *pneuma* is a vehicle of “divine force” which “has its metaphysical origins in the transcendent divine intellect” (A. P. Bos, *Aristotle on God’s Life-Generating Power and on Pneuma and its Vehicle* (Albany, NY: State University of New York Press, 2018), 139). Although the evidence for this in Aristotle’s biology is not strong, the goal of finding congruity between the traditional Aristotle corpus and less well known works such as the *Eudemus* (fragmentary) and *On the Cosmos* (of contested authenticity) is an interesting one.

²³ e.g. F. Nuyens, *L’Évolution de la Psychologie d’Aristote* (Louvain: Institute Supérieur de Philosophie, 1948), A. Preus, *Science and Philosophy in Aristotle’s Biological Works* (New York: Hildesheim, 1975), 85, J. Rist, *The Mind of Aristotle: A Study in Philosophical Growth* (Toronto: University of Toronto Press, 1989), C. D. C. Reeve, *Substantial Knowledge: Aristotle’s Metaphysics* (Indianapolis, ID: Hackett, 2000), 48, 59.

²⁴ For a fuller account of this passage see S. M. Connell, *Aristotle on Female Animals: A Study of the Generation of Animals* (Cambridge: Cambridge University Press, 2016), 215-220.

²⁵ See D. Quarantotto, “Perishable and Imperishable Lives: Aristotle’s Analogy with the Heavenly Element in *GA* II 3.736b29-737a5”, in *Life and the Science of Life in Aristotle and Aristotelianism*, ed. in D. Lefebvre (Leiden: Brill, forthcoming).

The passage doesn't say that *pneuma* is analogous to *aither* but rather that the 'nature' (φύσις) of the heat which is enclosed in semen and foam is analogous to the 'nature' of the element of the stars. The broader discussion seeks to distinguish the heat in animal bodies from fire, an external element. Inanimate heat, such as external fire, is not under the control of soul, and so, as with all elements, does not have a limit.²⁶ The passage continues thus:

This is the reason why fire generates no animal and no animal is put together in firey stuff, whether it liquid or solid. But the heat of the sun and that of animal, not only through seed, but also if there is any other natural residue, likewise this [residue] would possess a principle of life too. Therefore, it is clear from these things that the heat in animals is not fire and does not have its principle by fire.²⁷

In the background is the Aristotelian argument against various Presocratic philosophers who endeavour to explain generation or other biological processes in terms of the mixing of elemental powers without reference to ends (e.g. *De Incessu Animalium* 2, PA 1.1). The way in which the nature of the heat in *pneuma* corresponds to the nature of *aither* is as follows. The nature of *aither* is to facilitate the continuous and never changing cyclical motion of the heavens. *Aither* is an instrument for the achievement of eternal circular motion, since the other elements move only rectilinearly. Heat in animals specifically associated the nutri-generative functioning is instrumental to the ends of that soul capacity – self-maintenance and generation. The nutri-generative soul ensures generation of another living being the same in kind to the parents. This is the only way that perishable living beings can participate in eternal existence (*GA* II.1, 731b31-35, *de Anima* II.4, 415a27-415b1). The nature of the two is analogous because these roles are both ultimately directed towards the type of eternal existence that is open to the substance in question.

²⁶ Alexander of Aphrodisias understood the difference between vital heat and external fire in this manner: "That which feeds itself...orders, provides a guided way and has a certain limit, which is something that is proper to soul and not to fire" (On Aristotle's *De Anima* 35.6-8). Alexander Aphrodisiensis, *De Anima Libri Mantissa*, with Introduction and Commentary by R. W. Sharples (Berlin: De Gruyter, 2008).

²⁷ διὸ πῦρ μὲν οὐθὲν γεννᾷ ζῷον, οὐδὲ φαίνεται συνιστάμενον ἐν πυρουμένοις οὔτ' ἐν ὕγραῖς οὔτ' ἐν ξηροῖς οὐθὲν· ἡ δὲ τοῦ ἡλίου θερμότης καὶ ἡ τῶν ζῳῶν οὐ μόνον ἡ διὰ τοῦ σπέρματος, ἀλλὰ καὶ τι περίπτωμα τύχη τῆς φύσεως ὃν ἕτερον, ὅμως ἔχει καὶ τοῦτο ζωτικὴν ἀρχήν. ὅτι μὲν οὖν ἡ ἐν τοῖς ζῳοῖς θερμότης οὔτε πῦρ οὔτε ἀπὸ πυρὸς ἔχει τὴν ἀρχήν ἐκ τῶν τοιούτων ἐστὶ φανερόν. Aristotle, *GA* 2.3.737a1-7

Some see the remarks about separability in Passage (C) as an interpolation; the text shows signs of corruption and the bracketed thought is incomplete.²⁸ However, such swiftly expressed ideas are not uncommon in Aristotle. If the gist is that the principle of soul is on the one hand separable and the other inseparable, then this must mean that the soul that is set up by the male animal's active role in generation is inseparable from matter and the body in all animals that do not have *nous*. In the case of human beings, this principle of soul must also allow for the eventual separability conditions. The male originates a process that culminates in a new animal thinking.²⁹ The mature soul of a human has aspects that are separable (in full theoretical reasoning mode) and aspects which aren't separable. The form human requires this; the male is human and his nutritive soul will need to start another the same in form, with these two aspects of soul.³⁰

Although Balme is not seduced by the most far-fetching readings of these passages, he does not seem to realise that Aristotle is not concerned in terms of his own theory about how soul is conveyed in a physical sense to the embryo. Which makes us wonder why Aristotle gives us that impression in Passage (A).

II – *The meaning of “from outside”*

According to Aristotelian embryology, once the heart is established, it takes over the growth and development of the new animal, sending out blood vessels which form a network on which to build the other body parts (GA 2.6.742b35-743a2). The gradual development of the sensory body appears to lead Aristotle to the “big problem” (ἀπορίαν πλείστην) of “when, and in what way, *and from where* (πόθεν), do those that have a share in this principle [i.e. *nous*] take their share?” (GA 2.3.736b5-6). The notorious comment in Passage (A) suggests that the principle of thinking comes “from outside” (θύραθεν).

²⁸ See especially Charlton who says the passage is “incurably corrupt” and that “it leaves the final sentence hanging in the air; Aristotle does not say definitely whether or not *nous* does come in from outside, but passes [on]...to a completely separate line of thought” (Charlton, “The Place of Mind in Nature”: 414, 416).

²⁹ “If we could press Aristotle, he might say that *nous* does differ from other kinds of soul in coming in from outside, but not in the way 736b15-29 suggests. Actual *nous* arises only when, as we grow up, we taken in forms of things without their matter, as stated in *de An.* iii.4’ (Charlton “The Place of Mind in Nature”, 416).

³⁰ “736b29-737a7 allows the intellective soul just as much as the perceptive to come to be present in the embryo through the action of semen”, Charlton, “The Place of Mind in Nature”, 415).

The term used for outside, *thurathen*, is employed elsewhere in the psychological and biological works for external objects – external food (GA 2.4.740b4-5, PA 2.16.659a18, 4.4, 678a6), air that is breathed in by the animal (Somn. 2.456a17, GA 2.6.744a3, PA 1.1.642b2, 2.16.659b18, 3.6.668b35, 4.10.686a4)³¹ and eggs that are lain externally (GA 3.3.754b9).

There is another use of *thurathen*, however, which allows for a different way to understand the relationship between *nous* and externality. *Thurathen* is sometimes used to specify objects which affect an animal from outside of it without being imbibed. In the pseudo-Aristotelian *Problemata*, for example, the term indicates powers like heat and cold (Aristotle, *Problemata* 5.9.881b15). These powers are able to alter the body of an animal without having entered it. Thus, if a person were to jump into a cold river, their body would become cold, even if they did not ingest or absorb any of that water internally. In the case of perceptible objects, the external objects again bring about an internal change without actually entering the animal (GA 5.1.780a12, a29; 780b24, *On Dreams* 2.460b2, b29). This is a form of change Aristotle terms alteration (*alloiosis*) – an external potential affects an internal capacity and a change occurs – the animal cools down or perceives (*De Anima* 2.5.416b33-35).

The case of perception is useful for understanding how an animal eventually thinks, activating *nous*. The power to produce the sensation of red exists externally; under the right conditions, when conjoined with the internal potential to perceive the object of that particular sense; this results in the actualisation of the sense organ and a qualitative change (internally). The animal perceives. The same conceptual pattern is applied by Aristotle to intellection (at least at the first stage; DA 3.4.429a13-18). The objects that can be known are, in some sense, outside the individual knower – and potentially knowable.

One way to explain the comment about “from outside”, then, is that this relates to the fact that the intellectual capacity does not begin to develop until a human being exists externally, separated from the parent. Once a person is sensing and moving around, and the structures of their senses, the consistency of their flesh and blood and their spatial orientation are realised, they can become intelligent. Unlike the nutritive and sentient

³¹ Also some animals, according to Aristotle, take in water to cool themselves (*On Respiration* 3.471b5).

capacities, *nous* requires externality in order to begin its activation.³² Once reasoning gets going (a while after the child is born, nourished and tutored appropriately³³), then separation of this process from bodily action is possible – there is nothing in the body that operates to make reasoning occur but rather it happens due to the relation that the thinking animal has to the truths that exist.

Some, like Aquinas, cite Aristotle in support of the human soul entering the body at the point at which it has a human shape. Although this rightly acknowledges the importance of the human body as a basis for the ability to think, it fails to accurately locate the moment this ‘potentiality’ happens. Given that thinking won’t be actualised until some time in adolescence, why should the presence of a human shape be much more significant than the presence of a human heart, which is there from the outset? Aristotle does say that it is during development that an animal becomes its proper self – i.e. horse or human (*GA* 2.3.736b2-5). However, he does not indicate that this need be tied to the development of an external shape.³⁴ An embryo that has a heart but no discernible shape is no more or less able to think than one that looks human on the outside. As with other soul capacities, when a human male and female succeed in ensuring the further development of a foetus by bringing together their active and passive potentials to generative another like in kind, the new living being is potentially human. This living being may only have active nutritive functions at the outset, but by the specific manner in which these operate, the sense organs and body type conducive to eventual thinking are being developed and so intelligence is present potentially at this time.³⁵

³² Nutritive soul is clearly there from conception onwards (*GA* 2.3.736a32-36b2). The sentient soul is also present. Although it cannot be fully activated until it meets with all the relevant external sense objects, some sensing will begin while the animal is still in the uterus. One external sensory organ, flesh, develops early on and will respond to the surroundings of the womb or egg experiencing, for example, warmth. Later on, certain animals are discerned to “wake up” in the egg (*GA* 5.1.779a9, *HA* 6.3.561b27), indicating a further development of actual sensation.

³³ M. F. Burnyeat, “De Anima II 5”, *Phronesis* 47 (2002): 28-90 at 70n11. “[Mind’s] entering from without is as straightforward as our being taught by others” (R. Polansky, *Aristotle’s De Anima*, Cambridge: Cambridge University Press, 2007, 468n.18).

³⁴ Indeed, Aristotle resists Democritus’ emphasis on the importance of external shape in embryology (*GA* 2.4.740a13-19).

³⁵ See Charlton “The Place of Mind in Nature”, 414, who writes “*nous* of some kind ought to belong to embryos”, and also Michael of Ephesus’ position as described in J. Wilberding, *Forms, Souls, and Embryos: Neoplatonists on Human Reproduction* (London: Routledge, 2017), 114. This point of view is also supported by E. Berti, “Quando Esiste l’Uomo in Potenza? La Tesi di Aristotele”, in *Nascita e Morte dell’Uomo: Problemi Filosofici e Scientifici*, ed. S. Biolo (Genoa: Marietti, 1993), 115-23.

For Aristotle, once understanding is gained and this knowledge can be activated at will, the second actuality of intellect is separable (from our bodies), immaterial and immortal in the Aristotelian sense of our human intellect's participating in divine thoughts.³⁶ As unusual as this account of thinking might be, it cannot warrant the "bizarre" conclusion that *nous* is an external entity imported into an embryo's body.³⁷ One reason for this is embryological, the other metaphysical. Embryologically, *nous* must be there potentially from the moment the embryo is conceived as a human embryo (as just explained). Metaphysically, for Aristotle, something that is immaterial cannot travel through space in the same way that a bodily entity does.³⁸ What can be known, eternal truth, is not, strictly speaking, spatially locatable. This intelligibility could be seen as "outside" in a metaphorical sense, which could mean it is never really "inside" either.³⁹ Bodies primarily have a place or location, while properties, such as thinking, may be related to them and have a place only in a derivative sense (*Ph.* 4.2).

Thus we can say that when Abdul thinks of what an elephant is, elephant thinking is happening in the location of Abdul's person. Aristotle famously held that a body cannot be in two different places at the same time. But thinking *can* be at two places at the same time in this looser sense, as when both Zora and Abdul are thinking of the essence of elephant at the same time.⁴⁰ Thinking does not come into Zora nor Abdul's bodies from outside, like nourishment or breath. And since it seems that thinking can be in a location only in this loose sense, it is not the sort of thing that has to travel through space to get to where it is; thus the question of where intellect comes from is not one that ought to have worried Aristotle.⁴¹ This makes it even more curious that he talks of *nous* as entering

³⁶ Second actualisation of intellect is up to us, whereas for the second actualisation of perception to occur, the perceptible object must be there to perceive (*DA* 2.5.417b20-26).

³⁷ The description "bizarre" is from Caston, "Aristotle's Two Intellects", 215.

³⁸ My account of place and location in Aristotle is based on B. Morrison, *On Location: Aristotle's Concept of Place* (Oxford: Clarendon, 2002), Introduction.

³⁹ This is, I take it, the same metaphorical sense that Alexander understands knowledge to be from "above".

⁴⁰ "Knowledge in individual or humankind, as unchangeable and not dependent upon embodiment, can lose any link with soul and body. It then is just what it is, and because unconnected with any mortal thing, immortal and eternal <...> if the intelligible objects are eternal, and knowledge is the same as its object, knowledge should also be eternal. Such mind enters into humans for their brief lives<...>" (Polansky, *Aristotle's De Anima*, 466).

⁴¹ P. Moraux, "A Propos de νοῦς θύραθεν chez Aristote," in *Autour D'Aristote*, ed. A. Mansion (Louvain: Publications Universitaires de Louvain, 1955), 255-95 at 286: "l'aporie en question n'est pas nécessairement une aporie qui arrêterait le Stagirite lui-même."

“from outside”, indicating a directionality.⁴² This must be explained, then, by the polemic context in which this statement occurs in *On the Generation of Animals*.

Why is Aristotle concerned with the question of external nous?

The idea that *nous* enters “from outside” actually does not seem to be Aristotle’s own position but that of various opponents he disagrees with.⁴³ For example, Aristotle explicitly attributes an “external mind” (*ho thurathen nous*; *Resp.* 4.422a23) theory to Democritus. According to Aristotle, Democritus thought of the soul as the mind which is composed of numerous spherical atoms – these are kept in the body by the surrounding air, and are the cause of respiration (*DA* 1.2.404a1-16). Death occurs when these atoms physically exit the body (*Resp.* 4.472a14-16). Although he does not say so, it must be that life begins when they enter the body from outside.⁴⁴ We find a similar view in the Hippocratic corpus:

The human soul... which possesses a blend of fire and water, and the parts of a human, enters into every animal that breathes, and in particularly into every human.⁴⁵

Besides materialists, there are those who look for an immaterial substantial soul entering into the embryo, such as Plato and the Orphics.⁴⁶ Aristotle fundamentally disagrees with both materialists and immaterialists. First of all, soul is not to be identified with mind. In those sublunary living beings that have intelligence, all the soul parts are

⁴² I thank Ben Morrison for pointing this out to me.

⁴³ See discussion of the dialectic context in Moraux, “A Propos de νοῦς θύραθεν chez Aristote”, 283-7.

⁴⁴ Aristotle knows of many theories in which an external soul enters from outside to animate the embryo, such as Diogenes of Apollonia (frags. 7 and 8) and Diocles. See Quarantotto, “Perishable and Imperishable Lives: Aristotle’s Analogy with the Heavenly Element in *GA* II 3.736b29-737a5” for further references.

⁴⁵ Hippocrates, *De Victu* 1.25. E. Littré, *Oeuvres Complète d’Hippocrate*, 10 vols. (Paris, 1839-61), 6.496.21. For an excellent discussion of this passage see H. Bartos, *Philosophy and Dietetics in the Hippocratic On Regimen: A Delicate Balance of Health* (Leiden: Brill, 2016), 207-17.

⁴⁶ At *Phaedrus* 249b, a human soul is said to “enter” (ἐνθα) an animal’s body and to be able to move from one body to another. “The theory of the so-called poems of Orpheus presents the same difficulty; for this theory alleges that the soul, borne by the winds, enters from the universe into animals when they breathe” (*DA* 1.5.410b27-411a1).

unified; the soul is not only rational but also nutritive and sentient.⁴⁷ And he disagrees with both groups that this mind/soul enters from outside to animate the embryo.⁴⁸ It is these opponents he addresses when grappling with the puzzles (a) and (e) from *GA* 2.1-3.

Let's return, then, to think about the question of souls entering from outside which occupies Aristotle in puzzle (*aporia*) (a) (*GA* 1.1.733b23-734a2). Aristotle asks does the semen transfer something that becomes internal to the new animal – either soul, part of soul, or something that has soul? None of these can be contained in the semen. Male semen cannot even exist as potentially ensouled, because the male contributes no material to the new animal.⁴⁹ Instead, the form of the father (his soul or nature) uses male semen as an instrument to establish another form of the same sort in the embryo. Something that is already X (the male parent) is making something else X (*GA* 2.1.734a30-31; 734b21-3, 735a21).⁵⁰

In his own view, the question of “where [the soul] comes from” (πόθεν 736a31-32) is wrongly answered in a physical or spatial way. Soul cannot float in from outside; it is there in the generative products once the correct conditions for conception are achieved. The male contributes a source of substantial change, i.e. the efficient cause. It does not carry in it soul or *nous* and does not hand over soul capacities.⁵¹ Aristotle largely solves puzzle (a), then, through his theory of external agency and potentiality. At this point in the treatise, it seems that he is still engaging with an audience who expect to hear something about how soul is transmitted. And in *GA* 2.3 the questions of where soul comes from re-emerges for the unique status of the intellectual capacity of soul (*nous*).

It is clear that [similarly to nutritive soul] what we ought to say about sentient and thinking soul. For [the embryo] must possess all [soul capacities] potentially before in actuality. It is necessary that either none exist before they all come to be or that all are present from the outset, or some exist and some do not. And they come to exist either in the matter not entering in with the male

⁴⁷ As Miller puts it, “rational soul is not a top layer of soul that can be peeled off” (Miller: “Aristotle on the Separability of Mind”, 314-5). See endnote 50.

⁴⁸ Aristotle also has other reasons for disagreeing for both groups. For example, he complains that materialists cannot properly explain how an animal moves due to something like an act of will—the animal is not simply pushed around by particles or elements (*DA* 1.3.406b22-26).

⁴⁹ See endnote 68.

⁵⁰ Cf. *Metaph.* 7.7.1032a25; 7.8.1034a35-b8. The answer of how soul gets from father to offspring is partly explained through the use of the automatic puppet comparison (*GA* 2.1.734b4-17; *GA* 2.5.741b7-9).

⁵¹ Connell, *Aristotle on Female Animals*, ch.5.

semen, or having entered then, either all of them having come to be ‘from outside’ or none or some have and some haven’t.⁵²

If Aristotle doesn’t think that there is any difficulty with *nous* being there potentially along with the other parts of soul, why does he continually allude to the idea of it possibly entering from outside, and then, in Passage (A) concede that it alone (*monon*) of all the soul capacities is left to do so? The dense set of possibilities he presents in this passage and puzzle (a) are not in line with his own solution. Why, then, would he set these out in this way? It must be that there are certain theorists he has in mind who present these possibilities in their theories – and he means to address himself to these thinkers.⁵³

Aristotle’s answer to the external entry hypothesis is that this could only ever work for the thinking part; all other parts of soul must emerge from the embryo itself because they directly involve actions of the body. A good refutation of the entire opposing view can be constructed; it only lacks some final moves.

Main argument:

If soul enters from outside the embryo, it cannot be present there already.

There are three main capacities of soul: nutritive, sentient and rational.

Nutritive and sentient soul cannot come from outside.

Sub-argument:

Nutritive and sentient soul are dependent on the direct operation or actualisations of parts of the body – e.g. heart, sense organs.

What is dependent on the direct operations/actualisation of parts of the body cannot be separated from the body; what cannot be separated from the body must be present in that body from the outset of development.

Therefore, nutritive and sentient soul are present from the outset and cannot enter from outside at some point later on.

Only the intellectual capacity of soul is not directly dependent on the actualisation of any body part.

Conclusions:

Only the intellectual soul is separable from the body in this sense.

Only the intellectual capacity *could* (in principle) enter from outside.

Suppressed conclusion:

Intellect cannot be separated from the other soul capacities since soul is a unity, therefore it cannot enter from outside either.

⁵² ἐπομένως δὲ δηλὸν ὅτι καὶ περὶ τῆς αἰσθητικῆς λεκτέον ψυχῆς καὶ περὶ τῆς νοητικῆς· πάσας γὰρ ἀναγκαῖον δυνάμει πρότερον ἔχειν ἢ ἐνεργείᾳ. ἀναγκαῖον δὲ ἦτοι μὴ οὐσας πρότερον ἐγγίγνεσθαι πάσας ἢ πάσας προϋπαρχούσας ἢ τὰς μὲν τὰς δὲ μή, καὶ ἐγγίγνεσθαι ἢ ἐν τῇ ὅλῃ μὴ εἰσελθούσας ἐν τῷ τοῦ ἄρρενος σπέρματι ἢ ἐνταῦθα μὲν ἐκεῖθεν ἐλθούσας, ἐν δὲ τῷ ἄρρενι ἢ θύραθεν ἐγγιγνομένας ἀπάσας ἢ μηδεμίαν ἢ τὰς μὲν τὰς δὲ μή (GA 2.3.736b13-20).

⁵³ A reading along these lines was suggested to me by both Justin Winzenrieth and David Lefebvre.

This reconstruction leaves us with several questions. First of all, if these thoughts lie behind Aristotle's comment "*nous* alone [could in principle] enter from outside being divine", why did he not complete the argument against those who said that soul entered from outside the embryo? Another problem is that the opponents are not likely to accept the premises of this argument. For example, the idea that rationality cannot be separated out from the other soul capacities is something that Plato would deny. Furthermore, in one sense, Aristotle himself is also seeking to allow for some type of transcendence for *nous*, which is presumably why this question keeps returning, occurring numerous times in the *De Anima*, in *On the Parts of Animals* and several times in this section of *On the Generation of Animals*.⁵⁴ One might speculate about the shortcomings of his attempt to challenge the external entry view as follows. Given that *On the Generation of Animals* is a treatise in the realm of the study of nature, it ought not to involve close analysis of matters that extend far beyond that subject matter.

Although there is some point to the questions raised about the separability of *nous*, in that the treatise wishes to cover generation in human beings, and human beings are eventually able to think, any detailed analysis of such issues must be reserved for works on first philosophy (i.e. theology, *Metaphysics* 12) and ethics (i.e. how to lead the most godlike life, *EN* 10). These discussions, and those in *De Anima* Book 3, concern a broader category of life, including superlunary and immortal living beings.⁵⁵ Given the focus in this work on generation in *all* sublunary living beings, questions of anthropological concern do not take precedence. And this may be why Aristotle leaves an unfinished account, being unwilling to enter into *debates* about *nous* that are not, strictly speaking, part of the study of nature (*PA* 1.1.641a33-641b8).

III – Mistaken views of Aristotelian embryology

Throughout Antiquity human generation in particular would continue to perplex a variety of intellectuals. Added to the scientific difficulties were pressing theological questions. Many later religious writers, favouring a dualism that allows for life after

⁵⁴ Aristotle, *DA* 1.1.403a9-10; 1.5.411b18-19; 2.1.413a6-7; *PA* 1.1.641a33-641b10; *GA* 2.3.736b5-6; 13-29.

⁵⁵ For more about the differences between *De Anima* and Aristotle's biological research programme see J. G. Lennox, *Aristotle on Inquiry: Erotetic Frameworks and Domain Specific Norms* (Cambridge: Cambridge University Press, 2021), ch. 7 "Soul".

death, sought a point at which soul enters the body by divine intervention. This position generally also requires rejection of hylozoism or animism, whereby materials give rise to life.⁵⁶ Although psychic pre-existence and transmigration of soul must be resisted, this viewpoint fit best to that of Plato who rejects the materialism of his predecessors. What, then, does Aristotle have to contribute?

Those seeking insights about the advent of soul in embryology were aware that Aristotle's views must be considered; after all, he had produced the most comprehensive work on animal generation in classical Antiquity, *On the Generation of Animals*. While the treatise as whole seems to have gone out of favour after the time of Galen, several passages from it are cited again and again throughout early to late Antiquity and beyond. These include the most famous passage from the whole work, noted above as (A) as well as (B) and (C).

There are four main misrepresentations of Aristotle's position on soul in embryology based on these passages.⁵⁷

- (1) Substance immaterialism: Aristotle thinks that mind/soul is an immaterial substance that enters the body of the embryo.
- (2) Material carrier thesis: Aristotle thinks that mind/soul is carried in a material to the embryo.
- (3) Materialism: Aristotle thinks that mind/soul is a special material.
- (4) Creative intellect thesis: Aristotle thinks that mind/soul moulds the embryo.

Substance immaterialism is taken from Passage (A); here intellect (*nous*) is thought of as the *human* soul. Passage (A) does indicate some sort of dualism between body and intellect but it does not say when and where *nous* enters and does not say what it enters. Thus, (1) is not necessary and is, in fact, unsupported by the rest of the Aristotelian corpus.⁵⁸ The material carrier thesis (2) is most often held together with (1) and is based on Passage (B), the idea being that there must be a special material which can carry *nous* into the body of the embryo, the material that makes up (some part of) male semen,

⁵⁶ The issue of timing would become central to debates about abortion, which I will not discuss in this paper – see e.g. D. A. Jones, *The Soul of the Embryo. An Enquiry into the Status of the Human Embryo in the Christian Tradition* (London: Continuum, 2004), Ch. 5.

⁵⁷ I will not discuss a further mention of “external mind” at GA 2.6.744b21-23. Moraux's speculation of scribal error is persuasive (Moraux, “A Propos de νοῦς θύραθεν chez Aristote”, 294-5).

⁵⁸ Charlton, “The Place of Mind in Nature,” 413: “I find it extremely hard to believe that Aristotle in GA II.3 is saying that intellect, in the sense of a capacity for intellectual thought, is transmitted at conception. Nothing of the sort is suggested anywhere else in his work”.

usually *pneuma*.⁵⁹ Since (1) is not secure, (2) is also on shaky ground; if there is no entry of *nous* into the embryo, then there is no need to find something to take it there. Added to that problem for (2) is the worry that since *nous* is immaterial, it is very difficult to see why it has to be carried around. (3) Materialism is sometimes discerned from Passage (B) in the thought that soul is literally the element of the stars carried in male semen. This is a position Aristotle opposes; soul cannot be made of any material, but is the actualisation of a living body.⁶⁰ (4) The Creative intellect thesis, which stems from Neoplatonic influences, is unAristotelian through and through. For Aristotle, although soul does mould the embryo; generation is not an intellectual act but a nutritive one.

These misrepresentations come about by interpreting Passage (A)-(C) out of context and without the broader background of Aristotle embryology.⁶¹ In terms of psychological context, the focus tends to fall on only one portion of the *De Anima*, Book 3 chapters 4-5 which considers ‘intellect’ (*nous*). Here Aristotle distinguishes “productive” from “passive” intellect, and says that the former is “unmixed” and “distinct”.

And there is an intellect which is of this kind by becoming all things, and there is another which is so by producing (ποιεῖν) all things, as a kind of disposition, like light, does; for in a way light too makes colours which are potential into actual colours. And this [productive] intellect is distinct, unaffected, and unmixed, being in essence activity.⁶²

Productive *nous* can exist separately. “In separation it is just what it is, and this alone is immortal and eternal”.⁶³ Here we find Aristotle holding the (somewhat confusingly

⁵⁹ The most comprehensive modern interpretation along these lines is that of A. P. Bos. See A. P. Bos, “Pneuma and Ethics in Aristotle’s Philosophy of Living Nature”, *The Modern Schoolman* 79 (2002): 255-76; A. P. Bos, *The Soul and Its Instrumental Body: A Reinterpretation of Aristotle’s Philosophy of Living Nature* (Leiden: Brill, 2003); A. P. Bos “The ‘Vehicle of Soul’ and the Debate Over the Origin of this Concept” *Philologus* 151 (2007): 31-50; Bos, *Aristotle on God’s Life-Generating Power*. See Connell, *Aristotle on Female Animals*, Ch. 6.2 for references to other advocates of this position (including Balme, as detailed in section II above).

⁶⁰ Aristotle, *De Anima* 2.2.414a27-29.

⁶¹ On the importance of the context, see also Moraux, “A Propos de νοῦς θύραθεν chez Aristote”.

⁶² καὶ ἔστιν ὁ μὲν τοιοῦτος νοῦς τῷ πάντα γίνεσθαι, ὁ δὲ τῷ πάντα ποιεῖν, ὡς ἕξις τις, οἷον τὸ φῶς· τρόπον γὰρ τινα καὶ τὸ φῶς ποιεῖ τὰ δυνάμει ὄντα χρώματα ἐνεργείᾳ χρώματα. Aristotle *De Anima* (DA) 3.5.430a14-17. Translation from: Aristotle, *De Anima Books II and III (with passages from Book I)*, translated with introduction and notes by D. W. Hamlyn (Oxford: Clarendon, 1993): 60. There is no room here to set out the many controversies about productive intellect. For a good overview see especially Aristotle: *De Anima*, translated with introduction and commentary by C. Shields (Oxford: Clarendon, 2016): 312-17 and Miller, “Aristotle on the Separability of Mind”.

⁶³ Aristotle DA 3.5.430a24-5.

expressed) view that intellectual capacity (*nous*) is separable from the body. On certain convincing interpretations of this section of text, it means that when people think about truths, they transcend matter in a special sense. This does not mean, however, that Aristotle thinks minds can literally float free from bodies and travel out of or into them. Furthermore, the materials needed for animal generation do not literally carry soul, as Aristotle is keen to point out in the section of *On the Generation of Animals* (see section III). For Aristotle, soul is neither a separate substance nor made of a material. It is a non-material actualisation, a property or aspect of the body which cannot exist independently in a substantial sense.

While the passages themselves tended to take commentators far beyond what Aristotle would countenance, some understood the importance of the body to Aristotle's psychology and were more circumspect about how far his philosophy could be accommodated to survival of the soul after death. Amongst those who appreciated the key differences between Plato and Aristotle were early Christian thinkers, such as Gregory of Nyssa, Numenius and Tertullian.⁶⁴ In these writing we have a window into a world that is not as dominated by the synthesising ambitions of later thinkers. Most early Christian thinkers acknowledge Aristotle's views on the intertwinement of soul and body, which although it must be resisted in part in order to secure personal immortality, could also be useful in illuminating the importance of an embodied humanity.

The history of an idea

The role these popular passages have played in the history of Western thought is hugely complicated. The following provides only a very general account of some key debates and developments. The main concern is to highlight the above misrepresentations and how they were aided by taking the Passages (A)-(C) out of context and using them to support unAristotelian positions.

After the turning away from natural science in Aristotle's school, the Hellenistic period saw a lack of philosophical engagement with his biological works and produced

⁶⁴ Their more accurate analysis may have been partly due to a better access to Aristotle's biological treatises. Clement even quotes fragments of works no longer extant. See G. Karamanolis, "Early Christian Philosophers on Aristotle", in *Brill's Companion to the Reception of Aristotle in Antiquity*, ed. A. Falcon (Leiden: Brill, 2016): 460-79 at 460-2.

very little in the way of commentary on embryology.⁶⁵ A single hint in the second century grammarian Aristophanes of Byzantium, suggests that Passage (A) had inspired the idea that intellectual soul played some part in embryology, but the term used for it, “noeron”, is distinctly “unAristotelian”.⁶⁶ By the time of the more serious engagement of Alexander of Aphrodisias and the medico-philosopher, Galen, in the 2nd century C. E., Aristotle’s biological works were marginalised and absent from the curriculum.⁶⁷

Along with many other interpretations, Alexander relates Passage (A) to *De Anima* 3.4-5 on intellect (*nous*).⁶⁸ Despite not engaging directly with biological topics in Aristotle, Alexander’s view is sensitive to Aristotelian naturalism. Alexander notices the difficulty of immaterial, immortal intellect, as described in *De Anima* 3.5. If this is what is being referred to as ‘divine’ in the GA passage, why would it need to have a location?⁶⁹ He solves this by positing that because intellectual activity is not the actualisation of any body, there must be a correct blend that can “receive” intellect, a body that is capable of thinking, the instrument of intellect. But intellect is present even when its instruments are not in use, just as carpentry is there even when the carpenter is not using his tools. As Falcon puts it, for Alexander, “the intellect comes from outside in the sense that it is not a capacity of our soul but it has to be present in us when we think...When we think we partake of its incorruptibility”.⁷⁰ What Alexander’s view does not explain, presumably because he is not reading this as part of embryology, is how it is that the body can develop to become the sort of body that will be able to think.

⁶⁵ J. G. Lennox, “The Disappearance of Aristotle’s Biology: A Hellenistic Mystery”, in *The Sciences in Greco-Roman Society*, ed. T. D. Barnes (Edmonton: Academic Printing and Publishing, 1995): 7-24.

⁶⁶ See M. Hatzimichali, “The Early Reception of Aristotle’s Biology”, in *The Cambridge Companion to Aristotle’s Biology*, ed. S. M. Connell (Cambridge: Cambridge University Press, 2021): 228-245.

⁶⁷ A. Falcon, “The Reception of Aristotle’s Biology in Late Antiquity and Beyond”, in *The Cambridge Companion to Aristotle’s Biology*, ed. S. M. Connell (Cambridge: Cambridge University Press, 2021): 246-260; Wilberding, *Forms, Souls, and Embryos*, 2-3.

⁶⁸ The relationship between Aristotle’s concept of productive intellect and the human soul occupied thinkers from the time of Theophrastus onwards. Falcon, “The Reception of Aristotle’s Biology in Late Antiquity and Beyond,” endnote 15.

⁶⁹ *Mantissa* 2.2.5-II 3.6; Alexander of Aphrodisias. “De Anima Libri Mantissa” in *Alexandri Aphrodisiensis Praeter Commentaria Scripta Minora*, ed. I. Bruns. *Commentaria in Aristotelem Graeca Suppl.* 2.1 (Berlin: Reimer, 1887): 101–186. This is nicely explained by R.W. Sharples, *Peripatetic Philosophy, 200 BC to AD 200: An Introduction and Collection of Sources in Translation* (Cambridge: Cambridge University Press, 2010): 272.

⁷⁰ Falcon, “The Reception of Aristotle’s Biology in Late Antiquity and Beyond”.

Contemporaneous with Alexander was Claudius Galen, probably the thinker who knew Aristotelian embryology better than anyone else until the later Middle Ages. He sets up his own theory of generation in opposition to that of Aristotle.⁷¹ In this polemical state of mind, Galen struggles to understand the GA 2.3 passages. Reading σπέρμα (semen) instead of σῶμα (body/bulk) in Passage (B) adds to the confusion.

[Aristotle] writes as follows: ‘the body of the semen—in which the seed also travels from its origin in soul, being in part separable from body, [the part] in which the divine is contained (and like this is what is called intellect) and in part inseparable, the seed (σπέρμα) of the semen (γονήν) – is dissolved and turned to *pneuma*, having a moist and watery nature’.⁷²

The thought seems to be that there is a physical part of semen (the ‘seed’) which evaporates and a non-physical part which is intellect. This then leads to more far-fetched interpretations, suggesting the (4) Creative intellect thesis.⁷³ Galen appears to have a (2) Material carrier thesis at this point. Another reference to Passage (B) sees Galen come close to (3) Materialism.

And if we must speak of the substance of the soul, we must say one of two things: we must say either that it is this, as it were, bright and ethereal body, a view to which the Stoics and Aristotle are carried in spite of themselves, as the logical consequence (of their teachings), or that it is (itself) an incorporeal substance and this body is its first vehicle, by means of which it establishes partnership with other bodies.⁷⁴

⁷¹ Although this opposition has been exaggerated. See especially S. M. Connell, “Aristotle and Galen on Sex Difference and Reproduction: A New Approach to an Ancient Rivalry,” *Studies in the History and Philosophy of Science*, 31/3 (2000): 405-427 and R. Flemming, “Galen’s Generations of Seeds”, in *Reproduction: Antiquity to The Present Day*, eds. N. Hopwood, R. Flemming and L. Kassell (Cambridge: Cambridge University Press, 2018): 95-108.

⁷² Galen, *Sem.* 1.3. *Galen De Semine*. ed. P. De Lacy. *Corpus Medicorum Graecorum V* 3,1 (Berlin: Akademie Verlag, 1992), 69-70. Translation from Sharples, *Peripatetic Philosophy*: 253.

⁷³ For an early example of this mistaken view see Pseudo-Plutarch, *Summary of the Opinions of the Philosophers Concerning Nature* 5.4 905B. Aetius, *De Placita Philosophorum* 5.4.2, in H. Diels *Doxographi Graeci Collegit Recensuit Prolegomenis Indicibusque Instruxit* (Berlin: De Gruyter, 1879), 417a215. For Aristotle, nature works to form a new animal via the nutritive soul which does not have any intellectual content or intention. On this, see Connell, *Aristotle on Female Animals*, ch. 6.2.

⁷⁴ Galen *PHP* 7.7.25. De Lacy 474,22–27 = K. 5.643. Galen. *Galen De Placitis Hippocratis et Platonis*. ed. P. De Lacy. *Corpus Medicorum Graecorum V* 4,1,2 (Berlin: Akademie Verlag, 1978–1984), 474.22-27. Translation from P. N. Singer, “Galen on Pneuma: Between Metaphysical Speculation and Anatomical Theory”, in *Pneuma After Aristotle*, eds. S. Coughlin, D. Leith and O. Lewis (Berlin: Edition Topoi, 2020), 237-82 at 269. See also C. W. Wolfe, “Galen’s Contribution to the History of Materialism”, in *Galen and the Early Moderns*, eds. M. F. Camposampiero and E. Scribano, eds., (Springer, ‘Archives Internationales d’Histoire des Idées’, 2021).

From this passage, Galen seems to think that Aristotle ascribed to a materialistic view very like that of the Stoics, who held that soul was *pneuma* in tension.⁷⁵

After Galen, interpretations of Aristotle's views on intellect come into the project of synthesizing his philosophy with that of Plato. Without the biological and zoological works in circulation, the task is easier. Perhaps unsurprisingly, this one set of passages from the *GA* becomes even more important. While Plato did not engage in empirical natural philosophy, he can be said to have had views on embryology, views that were to be developed into a Neoplatonic position in later Antiquity.⁷⁶ Our clearest text for this is Porphyry's *Ad Gaurum* which understands the intellect coming "from outside" as a type of emanation of the soul from a divine source. This is one of the most significant developments in (1) Substance Immaterialist. For Porphyry, the immateriality of the soul is key, disagreeing on this point with his Stoic opponents.⁷⁷ Probably the most influential proponent of this view was the Christian Neoplatonist Philoponus who also develops the (2) Material carrier thesis. "Overinterpreting" Aristotle in a Platonic manner, Philoponus focuses on *nous* coming "from outside" and describes this as the descent of intellectual soul which becomes embodied through the "pneumatic body".⁷⁸

Passage (A) would come to generally to support (1) Substance immaterialism and Passage (B), the (2) Material carrier thesis.⁷⁹ A new debate emerges from this view about when and by what power intellect enters the embryo. Aristotle says it comes "from outside" and "is divine", so it would seem logical to conclude that the immaterial substantial soul comes from God, who implants it in the embryo (a view that would come

⁷⁵ For an interesting discussion of Galen's possible reading of Aristotle's *GA* along these lines, see Singer, "Galen on *Pneuma*".

⁷⁶ For the fullest account of Platonic and Neoplatonic embryology see Wilberding, *Forms, Souls, and Embryos*.

⁷⁷ Wilberding, *Forms, Souls, and Embryos*: 133, 136; M.-H. Congourdeau, "Debating the Soul in Late Antiquity", in *Reproduction: Antiquity to The Present Day*, eds. N. Hopwood, R. Flemming and L. Kassell (Cambridge: Cambridge University Press, 2018): 109-122 at 116.

⁷⁸ From M.-H. Congourdeau, "L'embryon Entre Néoplatonisme et Christianisme", in *Oriens-Occidens: Sciences, Mathématiques et Philosophie de l'Antiquité à l'Age Classique* (Paris: Université Paris 7 - Denis Diderot, 2002), 201-16. For this position, see also the description of Wilberding, *Forms, Soul, and Embryos*, 136: "The pneumatic body theory holds that the individual rational soul, as it descends from the intelligible region through the celestial spheres, acquires a pneumatic body and with it the non-rational soul en route".

⁷⁹ For Platonist sympathizers, one can see the attraction of this position as it seems to be in line with *Timaeus* 41e where souls are said to first enter the human body after God had earlier placed them in a star, as in a chariot.

to be known as “creationism”). The alternative view was that due to sin originating in Adam, the soul must be given in the seed of the father (so-called “traducianism”); one prominent advocate of the latter position was Augustine.⁸⁰

For (1) Substance immaterialism, the question of when God or dad implants intellectual/human soul remains. While Porphyry is insistent that ensoulment happens at birth, which was also the view of Stoic materialists, later thinkers chose either at conception or at some point during gestation. Aristotle is sometimes understood to think that nutritive and sentient soul come with the male semen, while intellectual soul comes from outside the embryo at the point when the embryo has a human shape; this is a view first developed by Jerome in the 4th century and can be found most famously in Aquinas.⁸¹ Advocates focus on a passage from the *Historia Animalium* which says that male embryos are formed at 40 days, females at 90 days.⁸² Despite the rare reference to a genuine zoological text, the position is not Aristotelian, since he never indicates that full formation is required in order for human soul to be present in the embryo.⁸³

Our ideas of these texts are also shaped by later Medieval interpretations. Rather than extract only certain portions of the biological works, philosophers in the Arab tradition studied and knew the content of the entire works.⁸⁴ These thinkers also grappled with previous traditions of interpretation. When understanding the GA passages above, troubled translations by Ibn Bajja also played a role as well as a certain preoccupation with finding a place for personal immortality. Combined with certain interpretations of the passages from *De Anima* Book 3, both Avicenna and Averroes viewed the intellectual

⁸⁰ For more on this controversy see Jones, *The Soul of the Embryo*, ch. 7.

⁸¹ Congourdeau, “Debating the Soul”, 116.

⁸² Aristotle, *Historia Animalium* 7.3.583b14-23. Aristotle is not actually this precise, but rather indicates that [human] male embryos are differentiated by three months’ and female ones at about four months’ gestation. This view was favoured because it seemed to accord with the first book of Genesis which was read to mean that the soul was breathed in once the body had been moulded. *Catenae Graecae in Genesim et in Exodum*, ed. F. Petit, vol. 2: Collectio Coisliniana in Genesim (Turnhout: Brepols, 1986): 86–7. Congourdeau, “Debating the Soul”, 114.

⁸³ For a fuller discussion see K. J. Flannery, “Applying Aristotle in Contemporary Embryology,” *The Thomist* 67 (2003): 249-78.

⁸⁴ Avicenna’s knowledge of *On the Parts of Animal* and *On the Generation of Animals* is very much in evidence. His own generation theory is close to that of Aristotle. B. Musallam, “The Human Embryo in Arabic Scientific and Religious Thought”, in *The Human Embryo: Aristotle and the Arabic and European Traditions*, ed. G. R. Dunstan (Exeter: University of Exeter Press, 1990), 32–46. Averroes wrote a commentary on *On the Generation of Animals* which survives in a Hebrew translation. Davidson, *Alfarabi, Avicenna, and Averroes on the Intellect*, 233.

soul as separable as “final cause” of the other soul parts, a view not held by Aristotle.⁸⁵ Avicenna also held that the intellectual soul is created with the body, and following the Neoplatonist scheme “emanated” from the Divine Intellect, and then survives after death.⁸⁶ In embryological terms, the parents prepare a body appropriate for receiving intellect.⁸⁷ For this tradition, then, the expression “from outside” from the *Generation of Animals* was taken to support the idea of emanation and transplantation of individual human intellectual souls. In the phrase “sometimes separable from matter” in Passage (C), the Arabic drops the “sometimes” so they take it that the “origin of soul” carried by semen is divine, i.e. from God.⁸⁸ Thus we see a combination of (1) Substance immaterialism and the (2) Material carrier thesis, but with a sensitivity to the importance of the human body for eventual intellectual understanding in human life.

In the Latin West, the scholastic position was similar to that of the Arabs. The differences were that there was less nuance about the state of the body and that the issue of timing became more central. For some Latin thinkers, such as Albertus Magnus, who would be the first to translate Aristotle’s zoological works into Latin, the (4) Creative intellect thesis is added – the intellect (*nous*) transmitted by the semen becomes responsible for the construction of the embryo.⁸⁹

In the early modern period, Aristotelian embryology came into focus again. What was at issue initially is a rejection of Aristotelian natural philosophy on the grounds of its inconsistency with Christian doctrine.⁹⁰ One problem cited was the impossibility of the soul’s immortality in Aristotle, a rejection, then, of certain readings of Passage (A).

⁸⁵ R. Winovsky, “Avicenna and the Avicennian Tradition”, in *The Cambridge Companion to Arabic Philosophy*, ed. P. Adamson (Cambridge: Cambridge University Press, 2005): 92-136, at 101-2.

⁸⁶ See especially Winovsky “Avicenna and the Avicennian Tradition”: 102; D. L. Black, “Psychology: Soul and Intellect”, in *The Cambridge Companion to Arabic Philosophy*, ed. P. Adamson (Cambridge: Cambridge University Press, 2005): 308-326 at 318.

⁸⁷ Black, “Psychology: Soul and Intellect”: 310.

⁸⁸ “On Ibn Bajja’s reading, souls in the sublunary realm come from an incorporeal substance – an agent that contains in itself the soul of all living beings and imparts them to the sublunar matter” (Davidson *Alfarabi, Avicenna, and Averroes on the Intellect*, 233).

⁸⁹ P. Allen, *The Concept of Woman: The Aristotelian Revolution, 750 BC-AD 1250* (Montreal: Eden Press, 1985), 368.

⁹⁰ Particularly by Pomponazzi (1462-1525) (Wolfe, “Galen’s Contribution to the History of Materialism”) and then taken up again much later by Gassendi (1592-1655). See D. Levitin, *Ancient Wisdom in the Age of the New Science* (Cambridge: Cambridge University Press): 431-33.

Accusations of ‘animism’ and ‘idolatrous animism’, i.e. the idea that nature is animate, leaving no place for God, were rife. While Aristotle, partly due to some of the interpretations we have looked at already, was often thought of as less open to this charge than Plato or Epicurus, many thinkers in 16th and 17th century saw Passage (B) as evidence for an animation of the elements, making this a form of (3) Materialism. This idea became so entrenched that by the time of Locke Aristotle’s position is, ironically, lumped in with the Cambridge Platonist’s view that a “plastic power” or “spirit of nature” is responsible for living beings.⁹¹

Part of the difficulty with understanding these passages and others on ‘intellect’ (*nous*) is that Aristotle holds to neither of the two more straightforward positions of substance dualism and materialism. For Aristotle, the intellectual capacity of human beings is unlike the other two main soul capacities, nutritive and sentient, by being in some sense “separable”, “unmixed” and “immortal”; thus, he espouses some sort of dualism but not one that is easy to pin down.⁹² Intellectual activity does not involve the actualisation of any organ of the body (*DA* 2.2.413a4-9); it cannot in order to retain its plasticity, since the human mind must be able to understand all the true essences of things.⁹³ When, through a long and arduous process, human beings are able to grasp eternal truths and contemplate them, the part of themselves that achieves this becomes one with these objects of knowledge.⁹⁴ Thus, a person, when she is thinking of these truths, becomes like God, pure thought. “To contemplate the essences of things <...> is to enjoy the ultimate intellectual attainment. It is quite literally to think God’s thoughts”.⁹⁵

⁹¹ Those who take Aristotle to be animism in this period include Bacon, van Helmont, Boyle, Glisson and Harvey. For a fascinating account of this particular history of interpretation of Passage (B), especially in England, see Levitin, *Ancient Wisdom in the Age of the New Science*, 398-432.

⁹² In terms of more modern positions, the view is closest to epiphenomenalism or emergentism. See discussion in Connell, *Aristotle on Female Animals*, ch. 6.3.

⁹³ Essences are said to be in the mind or soul (Aristotle, *De Anima* 2.5.417a21-23; 3.4.429a27; *Posterior Analytics* 2.19.100a5-9; 2.14.98a15-17; *Metaphysics* 7.15.1040a3-4). On the plasticity requirement see Shields, *Aristotle: De Anima*: 294 and C. Cohoe, “Why the Intellect Cannot have a Bodily Organ,” *Phronesis* 58/4 (2013): 347-77.

⁹⁴ “What is called mind of the soul...is none of the beings in actuality before it thinks” (ὁ ἄρα καλούμενος τῆς ψυχῆς νοῦς <...> οὐθέν ἐστιν ἐνεργεῖα τῶν ὄντων πρὶν νοεῖν· *DA* 3.4.429a22-24).

⁹⁵ D. Sedley, “The Ideal of Godlikeness,” in *Plato 2: Ethics, Politics, Religion, and the Soul*, ed. G. Fine (Oxford: Oxford University Press, 1999): 309-28 at 328. As Sedley reminds us, Aristotle says that the highest form of happiness is to contemplate such truths and “to the extent one can,

This position leaves no room either for immaterial substances in humans that are ‘minds’ or for the survival of individual souls after death.⁹⁶ For human beings, thinking is only sustained via the senses and a human body during this life. This view depends on certain readings of *De Anima* 2 and 3 that accord with a more naturalistic and biological understanding than some. A major difficulty for this interpretation is precisely the Passage (A) on *nous* entering “from outside”; there seems little reason why that would need to happen if intellectual activity is the culmination of human development, taking place long after birth. Unless Aristotle thought of intellect as something separable and handed over to a human embryo, in effect, making it fully human, why would he need to mention this in the *GA* section on the way in which seed is related to soul? Thus does that passage challenge naturalistic Aristotelianism.

IV – Early Christian thinkers on Aristotle’s biology

Early Christian engagement with Aristotle was mainly dismissive. In general, these thinkers appeared to appreciate that his views about soul pulled against many Christian doctrines. This may have been due to a better acquaintance with Aristotle’s zoological writings which provides the requisite naturalistic background and thus a better understanding of his position.⁹⁷ With respect to the content of *On the Generation of Animals*, early Christian commentators were more inclined to regard it with suspicion than to adopt Passages (A)-(C) as part of their own understanding. A good example of this is Eusebius’ reflection on the Platonist Atticus’ complaints against Aristotle’s embryology. Atticus points out that if intellect is incorporeal then it cannot move from one place to another and so cannot “come from outside”.⁹⁸ This led him to believe that

to immortalize” (Aristotle, *Nicomachean Ethics* 10.7.1177b33). The passage recalls exhortations that individuals attempt to resemble God in Plato’s *Timaeus*.

⁹⁶ It can be argued that Aristotle’s God is such a substance. On this see S. Menn, “Aristotle and Plato on God as *Nous* and as the Good”, *Review of Metaphysics* 45 (1992): 543-73. In us, it is not a substance, but an activity of thinking (Shields, *Aristotle: De Anima*, 293).

⁹⁷ Clement, for example, describes Aristotle as a ‘natural scientist’ (*phusikos*) rather than as a philosopher. Karmanolis, “Early Christian Philosophers on Aristotle”, 463.

⁹⁸ Sharples, *Peripatetic Philosophy*, 273.

Aristotle did not allow for the soul's substance immateriality despite Passage (A).⁹⁹ This view was also held by Gregory of Nyssa and Numesius.¹⁰⁰

While approvingly referencing Aristotle's biological works, Numesius criticises soul as actuality; for him, Aristotle fails to make intellect independent of the body in the required manner. Meanwhile Gregory understood the importance of the embryological development to understanding the interdependency of soul and body. Using an Aristotelian view, he argued that soul was present from conception, even if faculties manifest themselves later on as the body develops.¹⁰¹ This view is indeed much closer to what Aristotle himself thought than the one that would become so prominent in later Christian thinkers, that the body had to look human first. Soul is not fully actualised until the foetus emerges and can sense and nourish itself; it is there potentially from the outset as a human soul, with the potential to eventually think.

For Aristotle, the human soul, even in its intellectual capability, is closely tied to the human body. The intertwinement of soul and body meant that there would have to be body ready to receive a newly constructed soul, a view which was also popular with Arab philosophers. The sense in which intellectual capacity is separable has less to do with dualism than it does to Aristotle's way of explaining our understanding of godlike truth. What is impossible to find without distortion is any way for individual human beings to be eternal and immortal. While those who recognised this were gradually pushed aside (e.g. Alexander, Averroes), a close association between Platonic and seemingly Aristotelian theories could be maintained; this would eventually allow a somewhat distorted dualistic Aristotelianism to form part of later Christian theology. However, early Christian engagement with Aristotle reveals a recognition that his views would not fully suit that particular agenda.¹⁰²

Despite the tendency to treat Aristotle with suspicion, early Christian commentators' serious engagement with the content of his biological works would be very important to certain aspects of their thinking. As already mentioned, it allowed a

⁹⁹ M. Edwards, *Aristotle and Early Christian Thought* (London: Routledge, 2019), 23.

¹⁰⁰ Numesius, *On Nature of Man* 27.11-14. Karamanolis, "Early Christian Philosophers on Aristotle", 476.

¹⁰¹ Gregory of Nyssa *On the Making of Man* 28; this was also the view of Tertullian. See Congourdeau "Debating the Soul", 112.

¹⁰² Early Christian thinkers were more sympathetic to Plato than Aristotle (Jones, *The Soul of the Embryo*: 81; Karamanolis "Early Christian Philosophers on Aristotle").

way to resist the possibility of the transmigration of souls or implantation of already existing souls, which early Platonic dualism was built upon. An appreciation for the Aristotelian naturalistic viewpoint also provided potential resources in other areas. For example, knowledge of Aristotle's embryology was to allow for a richer account of the virgin birth. The humanity of Jesus is not something handed over on high but is within the refined materials of a woman's body, which would go to make up his own human body.¹⁰³ And the close connections between human bodies and souls not only explained the joining of a new soul to a human body at the beginning of life, but also the need for bodily resurrection in the life to come.

Sophia Connell

Birkbeck, University of London

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¹⁰³ For the female contribution as refined materials and menstrual blood as the substance of the human body see Clement *Paed.* 1.6.48.1-3; 1.6.49-1-2 and commentary in B. Pouderon, "La Conception Virginale chez les Premiers Pères de L'Église. Réflexions sur les Rapports entre Théologie et Physiologie", in *Regards sur le Monde Antique. Hommage à Guy Sabbah*, ed. M. Poit (Lyon: Presses Universitaires de Lyon, 2002) : 229-255.

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Mysterious Bodies: Aristotelian Animal Generation and the Early Christian Doctrine of Bodily Resurrection

Anne Siebels Peterson

Brandon R. Peterson

How does a living body come to be? What happens when it passes away? Questions like these captivated both Aristotle and St. Paul, despite their significantly different times and cultures. While it does not make any claim that Paul explicitly relied on Aristotle, this article does argue that each of them faced down parallel dilemmas and responded with the same conceptual move. Writing on animal generation, Aristotle rejected theories which overemphasize continuity through the developmental process or so stress the intelligibility of discrete stages that the process itself disintegrates without coherence. Likewise, Paul, writing on the plausibility of bodily resurrection, exhorts the Christian community in Corinth to reject overly continuous caricatures of resurrection while also urging them not to abandon hope for the bodies of those who have died – “what you sow,” he tells them, “come[s] to life.” Both Paul and Aristotle point their readers toward accounts of bodily development which refuse to collapse into either identity with the past or discontinuity between past and future – Paul and Aristotle insist on both. Such insistence is plausible on each of their accounts because they advance a shared conceptual shift away from prioritizing the temporal order of bodily change and toward a teleological order which privileges a greater whole.

*Listen, I will tell you a mystery! We will not all die, but we will all be changed, in a moment, in the twinkling of an eye, at the last trumpet. (1 Corinthians 16.51-52)*¹

*Every realm of nature is marvellous: and as Heraclitus, when the strangers who came to visit him found him warming himself at the furnace in the kitchen and hesitated to go in, is reported to have bidden them not to be afraid to enter, as even in that kitchen divinities were present, so we should venture on the study of every kind of animal. (Aristotle, *Parts of Animals* 1.5, 17-22)*²

¹ Quotations from the Bible are taken from the New Revised Standard Version (NRSV) translation. Michael D. Coogan (ed.), *The New Oxford Annotated Bible: New Revised Standard Version with the Apocrypha*, 4th edition (New York: Oxford University Press, 2010).

² All citations of Aristotle are taken from Jonathan Barnes, *The Complete Works of Aristotle*, 2 vols. (Princeton, NJ: Princeton University Press, 1984).

Introduction

Aristotle's biological writings highlight his commitment to investigating the natural world, in particular the generation and life of animals of every sort. In *Parts of Animals* (PA)1.5 he compares the study of natural things with the study of eternal things. Despite the humbler status of natural things, the same marvelousness and beauty is to be found in both realms alike, just as Heraclitus reportedly affirms to his visitors that "divinities" are present even in the humbleness of his kitchen. Aristotle continues:

so we should venture on the study of every kind of animal without distaste; for each and all will reveal to us something natural and something beautiful. Absence of haphazard and conduciveness of everything to an end are to be found in nature's works in the highest degree, and the end for which those works are put together and produced is a form of the beautiful. (645a21-25)

These words are contentious ones. Whereas Plato locates true beauty only in the form of the beautiful itself, separate from natural things, Aristotle here uses Plato's terminology (*to kalon*) to describe the beauty found *in* natural objects. The very beauty that Plato confined to the eternal realm of the forms is extended to all parts of the world, even to the humblest of natural creatures: "we proceed to treat of animals, without omitting, to the best of our ability, any member of the kingdom, however ignoble. For if some have no graces to charm the sense, yet nature, which fashioned them, gives amazing pleasure in their study to all who can trace links of causation, and are inclined to philosophy" (645a5-10). The beauty and mystery found in the eternal realm is not confined to that realm; it spills over into the natural realm as well.

Aristotle's worldview differed deeply and irreconcilably from the later worldview of early Christians such as the apostle Paul. Despite these differences, we will argue that a mystery with the same philosophical structure can be identified in both the Aristotelian and the Pauline contexts, and moreover that Aristotle and Paul address this mystery in the same way. The mystery takes the form of an apparent dilemma. Before setting out this dilemma, it is important to emphasize that we are not making a historical argument that Paul explicitly or consciously used Aristotelian philosophy in this case. Rather, our argument is purely philosophical—the same mystery *and* the same way of addressing it arise in both Paul and Aristotle, however different the original motivations of each may be.

In 1 Corinthians 15, Paul, like Aristotle, is intent to emphasize a strange and even, to his audience, shocking point of connection between the natural and the eternal realms. But he describes a mystery that bridges the eternal and the natural to an extent that Aristotle never

would have considered: the resurrection of the earthly body as an incorruptible, “spiritual” body. “What is sown is perishable, what is raised is imperishable. It is sown in dishonor, it is raised in glory. It is sown in weakness, it is raised in power. It is sown a physical body, it is raised a spiritual body” (1 Cor 15.42-44). Paul’s understanding of the relationship between the earthly and the resurrected body implies, at least on the prominent Irenaeian reading, both continuity and discontinuity: the resurrected body is numerically the same body as the earthly body, yet it is deeply transformed.

Despite the fact that Aristotle never would have countenanced the possibility of bodily resurrection, we will argue that he identifies an analogously mysterious phenomenon purely within the *natural* world: the generation of animals. In animal generation, the animal develops from early embryonic to more complex stages. Aristotle too is committed to continuity between the embryo and the animal body as it continues to develop, as well as to the disparities between different stages of animal development. He wants to secure the idea that it is *one body* through the whole developmental process, even though its specific features do change drastically as new parts develop.

How can both of these commitments be secured? What background framework for understanding this phenomenon could support the conclusion that there is *one* body all along, without downplaying the genuine discontinuities between its different stages? After explaining the shared challenge in each of these cases—a dilemma between the two horns of continuity and discontinuity that characterize the process of growth undergone by the body, in animal generation for Aristotle and in the process of the resurrection for Paul—we will argue that Aristotle and Paul go on to address it in the same way: by making a distinction between the temporal order that we are used to observing and a non-temporal, yet more fundamental and important, order. They go on to argue that within the context of this more fundamental order, the disparity or discontinuity at hand is not opposed to or inconsistent with the continuity at hand. Rather than defusing the mystery by choosing one horn of the dilemma over the other, Aristotle and Paul alike embrace the mystery by turning to a new order in which the two horns are reconciled.

I. Paul and the Greeks: The Puzzle of Resurrection

Although Jesus is obviously at the center of Christianity’s message, there is no person of greater importance to its successful spread than Paul (d. 60s C.E.). As Paul attests in his

letters, which make up the earliest stratus of the Christian New Testament, he was “a member of the people of Israel, of the tribe of Benjamin, a Hebrew born of Hebrews; as to the law, a Pharisee; as to zeal, a persecutor of the church” (Phil 3.5-6; cf. Gal 1.13). However, he underwent a life-changing transformation when “God, who <...> called me through his grace, was pleased to reveal his Son to me, so that I might proclaim him among the Gentiles” (Gal 1.15-16). Paul’s encounter with the risen Jesus spurred intensive missionary activity as he traveled around Asia minor, Greece, and eventually to Rome, preaching what he called the Gospel (*euangelion*, literally the “good message”) and establishing small Christian communities. One such community was the church in Corinth, to which he wrote at least two letters.

1.1. Background: Paul and his Interpreters

Paul’s first letter to the Corinthians is wide-ranging and addresses a number of controversies that have arisen in the community since his departure: factions and rivalries, questions about rituals and food, and the doctrine of the resurrection. In response, Paul introduces now famous imagery, explaining to the divided Corinthians that they are all united as members of a single body, that of Christ. On the topic of resurrection, he appeals to the image of a seed that enters the ground in one condition and emerges in a wondrously new one. Before exploring this specific analogy in a later section, we must first consider the situation that prompted him to employ it and his broader strategy for responding to that situation.

Paul himself addresses the situation head on, interrogating the community, “how can some of you say there is no resurrection of the dead?” (15.12) The idea of resurrection was a controversial one, even within the Jewish context from which early apostles like Paul received it. The first straightforward reference to the idea in the Hebrew Bible is the apocalyptic Book of Daniel, written in the 160s B.C.E.³ And among Jews in the first century C.E., the notion was contentious; the Christian New Testament reports that while Pharisees like Paul accepted the doctrine, the more traditional Sadducees remained skeptical of it.⁴

³ “Many of those who sleep in the dust of the earth shall awake, some to everlasting life, and some to shame and everlasting contempt” (Daniel 12.2).

⁴ “When Paul noticed that some were Sadducees and others were Pharisees, he called out in the council, ‘Brothers, I am a Pharisee, a son of Pharisees. I am on trial concerning the hope of the

Moreover, skepticism toward the idea was not confined to the Jewish community. The second century philosopher Celsus mocked Christian hope in bodily resurrection as “the hope of worms. For what sort of human soul would have any further desire for a body that had rotted?”⁵ Christians sensed such skepticism even earlier, as the Book of Acts reports Paul taking his message of new life in the risen Christ to Athens, where he met Greeks at the Areopagus who “scoffed” at “the resurrection of the dead.”⁶ From Paul’s accusatory question to the Corinthians, it is apparent that some Greeks there bore similar suspicions.

In their older accounts of the afterlife, both Jewish and Greek traditions described the possibility of a shadowy existence in Sheol or Hades, respectively, but the two traditions diverged when it came to more optimistic and glorious accounts of the afterlife that emerged closer to the first century C.E. While the rabbis, operating with a traditionally material anthropology (“You are dust and to dust you shall return,” Gen 3.19), posited a resurrected flesh, some Greek philosophers in the Platonic tradition suggested that bodily life stood not as a vehicle toward glory but an impediment: not that in which but rather *from* which we are saved. Plato’s ideal, for instance, involved the soul’s immaterial contemplation of the form of the Good.⁷ But whether those in Corinth had in mind more traditional ideas of Hades, immaterial Platonic possibilities, or Aristotelian doubt about any afterlife at all, the Pharisees’ notion of bodily resurrection was largely foreign to respectable Greek thought on the topic.⁸

resurrection of the dead.’ When he said this, a dissension began between the Pharisees and the Sadducees, and the assembly was divided. (The Sadducees say that there is no resurrection, or angel, or spirit; but the Pharisees acknowledge all three.)” (Acts 23.6-8; see also Matt 22.23-33)

⁵ Qtd in Origen, *Against Celsus* 5.14, trans. Henry Chadwick (Cambridge: Cambridge University, 1965), 274. See Brian E. Daley, “A Hope for Worms: Early Christian Hope,” in *Resurrection: Theological and Scientific Assessments*, ed. Ted Peters et al, (Eerdmans: Grand Rapids, 2002), 136–64, at 138.

⁶ Acts 17.23; cf.

⁷ For a succinct overview of various Hellenistic (Platonic, Aristotelian, Neo-Platonic, Stoic, and other) theories of the soul and afterlife operative in the early Christian milieu, see Daley, “A Hope for Worms,” 137–39.

⁸ Cf. The reaction of the Athenians to Paul’s message: “May we know what this new teaching is that you are presenting? It sounds rather strange to us” (Acts 17.39). Raymond Collins explains, “The idea of bodily resurrection is one that derives from a Jewish apocalyptic understanding. At best Hellenistic thinkers would have thought in terms of the immortality of the soul. Not so Paul and those Jews who espoused the notion of bodily resurrection. <...> Rabbis raised questions as to whether the bodies of those who are raised from the dead will be perfect bodies or the imperfect bodies of ordinary humans. <...> Speculation on questions such as these appear in *b. Ketub.* 11a; *b. Sanh.* 90b; *y. Kil.* 9:3; *y.*

Paul's message in 1 Cor 15 thus stands as a sort of sales pitch to these suspicious Greeks. How, precisely, he designed such a pitch has been a matter of debate almost since he wrote it. James Ware has helpfully categorized these early Christian interpretative strategies into three camps.⁹ The first, consisting of dualist Christians who were later described broadly as "Gnostic," interpreted Paul in a more Platonic fashion.¹⁰ That is, grounding their reading in passages like "flesh and blood cannot inherit the kingdom of God, nor does the perishable inherit the imperishable" (1 Cor 15.50), these dualists took the situation in Corinth to be one of misunderstanding: Paul's message was not in fact one of *bodily* resurrection (like most other Pharisees held), but of new, immaterial life. It was a message of stark discontinuity between bodily life as we know it and the life of the spirit to come.¹¹

For the second century bishop of Lyons, Irenaeus, this Gnostic interpretation grossly distorted Paul's intent. Likening the Scriptures to a beautiful mosaic of a king, Irenaeus suggests that the Gnostics had violently rearranged the individual stones of the mosaic to fashion a dog or a fox and then subsequently declared such a counterfeit image to be that of the king.¹² The true Gospel message, Irenaeus counters, is not one of God rescuing us from a repugnant material creation, but rather God – the same God who both creates and redeems – bringing his material children to their properly intended maturity.¹³ That is, Irenaeus argues

Ketub. 12:3; *Qoh Rab.* 1:4; 2 *Apoc. Bar.* 49; and elsewhere" (Collins, *First Corinthians*, vol. 7 of *Sacra Pagina*, ed. Daniel Harrington (Collegeville, MN: Liturgical Press, 1999), 563). However, for examples of resuscitation and rejuvenation in Greek literary and mythological material, see Dag Øistein Endsjø, "Immortal Bodies, Before Christ: Bodily Continuity in Ancient Greece and 1 Corinthians," *Journal for the Study of the New Testament* 30.4 [2008]: 417–36.

⁹ James Ware, "Paul's Understanding of the Resurrection in 1 Cor 15:36–54," *Journal of Biblical Literature* 133.4 [2014]: 809–35, at 815–16.

¹⁰ The variety among such "Gnostic" groups has led some scholars to question the usefulness of the term itself. On this question, see Cyril O'Regan, "Historiographic Sophistications: Did Gnosticism Exist?" in *Church Life Journal*, 28 April 2020, <https://churchlifejournal.nd.edu/articles/the-historiography-of-gnosticism-and-the-demands-of-theory/>

¹¹ For more on Gnostic views about bodily resurrection, including those found in the second century *Epistle to Rheginos*, see Daley, "Hope for Worms," 145–47.

¹² *Against Heresies* 1.8.1

¹³ Irenaeus describes this maturation process reaching its culmination in and through Christ. "'If, however, any one say, 'What then? Could not God have exhibited man as perfect from the beginning?' let him know that, inasmuch as God is indeed always the same and unbegotten as respects Himself, all things are possible to Him. But <...> as it certainly is in the power of a mother to give strong food to her infant [but she does not do so], as the child is not yet able to receive more substantial nourishment; so also it was possible for God Himself to have made man perfect from the first, but man could not receive this [perfection], being as yet an infant. And for this cause our Lord, in these

that God saves *through* rather than *from* matter,¹⁴ centering his claim on the Christian story of the incarnation (God taking on created flesh in order to redeem it)¹⁵ and the practice of the Eucharist (receiving Christ's body and blood to transform our own).¹⁶ For Irenaeus, resurrected life is the final stage of human development, which is bodily (though in different ways) through and through. It is thus a story in which Paul's themes of discontinuity in 1 Cor 15 are tempered by a strong, underlying story of continuity. (We will consider passages that support such continuity shortly.)

A third way between Irenaeus and Gnostic dualist interpretations of Paul's writing on resurrection was suggested by Origen of Alexandria, the great third century biblical exegete. Origen agreed with Irenaeus that resurrected life was bodily, but he shared the dualist suspicion of our frail, fleshy bodies having much of a future after their disintegration.

last times, when He had summed up all things into Himself, came to us, not as He might have come, but as we were capable of beholding Him. He might easily have come to us in His immortal glory, but in that case we could never have endured the greatness of the glory; and therefore it was that He, who was the perfect bread of the Father, offered Himself to us as milk, [because we were] as infants. He did this when He appeared as man, that we, being nourished, as it were, from the breast of his flesh, and having, by such a course of milk-nourishment, become accustomed to eat and drink the Word of God, may be able also to contain in ourselves the Bread of immortality, which is the Spirit of the Father" (*Against Heresies* 4.38.1, in *The Ante-Nicene Fathers* [henceforth ANF] vol. 1, *The Apostolic Fathers with Justin Martyr and Irenaeus*, ed. Alexander Roberts and James Donaldson [Buffalo, NY: Christian Literature Publishing, 1885], 315–567, at 521).

¹⁴ According to Matthew Steenberg, Irenaeus's magnum opus *Against Heresies* offers "a deliberate counter to the proliferation of anti-materialistic, dualistic views in the groups against which Irenaeus writes, not only through the reaffirmation of humanity's material nature, but also of God's continued use of the material order to effect human salvation" (Matthew C. Steenberg, *Irenaeus on Creation – The Cosmic Christ and the Saga of Redemption* [Leiden: Brill, 2008], 118).

¹⁵ Irenaeus explains that Christ "had Himself, therefore, flesh and blood, recapitulating in Himself not a certain other, but that original handiwork of the Father <...>. [T]he righteous flesh has reconciled that flesh <...> and brought it into friendship with God" (*Against Heresies* 5.14.2, in ANF 1:541).

¹⁶ Citing *Against Heresies* 5.2.3, Caroline Walker Bynum explains, "Irenaeus thus suggests that the proof of our final incorruption lies in our eating of God. The very 'truth' of our flesh is 'increased and nourished' in the Eucharist. <...> We drink blood in the cup; blood can come only from flesh and veins; we know that our flesh is capable of surviving digestion exactly because we are able to digest the flesh of Christ. The fact that we are what we eat—that we become Christ by consuming Christ, but Christ can never be consumed—guarantees that our consumption by beasts or fire or by the gaping maw of the grave is *not* destruction. Death (rot, decomposition) can be a moment of fertility, which sprouts and flowers and gives birth to incorruption. Because eating God is a transcendent cannibalism that does not consume or destroy, we can be confident that the heretics who would spiritualize the flesh are wrong. Flesh, defined as that which changes, is capable of the change to changelessness" (Bynum, *The Resurrection of the Body in Western Christianity, 200-1336* [New York: Columbia University Press, 1995], 39). Cf. *Against Heresies* 5.2.3.

Accordingly, and with his own textual support from Paul (who contrasted “earthly” bodies with “heavenly” ones),¹⁷ Origen suggested that the souls of the deceased will be united not with their former, fleshy bodies but with new bodies composed of a “higher” and more refined material, ether.¹⁸

Origen’s view was condemned some three centuries after his death at the Second Council of Constantinople (553 C.E.); mainstream Christian doctrine and even, eventually, secular biblical exegesis came to be dominated by the opinion that Ireaneus’s reading – with its emphasis on continuity and resurrected *flesh* – was more faithful to Paul.¹⁹ Even so, Origen’s position has staged a comeback in recent decades and contemporary scholarship is

¹⁷ “There are both heavenly bodies and earthly bodies, but the glory of the heavenly is one thing, and that of the earthly is another. There is one glory of the sun, and another glory of the moon, and another glory of the stars; indeed, star differs from star in glory. So it is with the resurrection of the dead” (1 Cor 15.40-42).

¹⁸ According to Origen, “a body is controlled by nature, which puts something such as food into it from without, and as this food is eliminated, [it adds] further things, such as vegetable and animal products, in place of the other materials it had previously put there. Thus the body has not inaptly been called a river.

For strictly speaking, the first substratum (*proton hypokeimenon*) in our bodies is scarcely the same for two days, even though, despite the fluidity of the nature of a body, Paul’s body, say, or Peter’s, is always the same. <...> This is because the form (*eidos*) which identifies the body is the same, just as the features which characterize Peter’s or Paul’s bodies remain the same – characteristics like childhood scars, and such peculiarities as moles, and any others besides. This form, the bodily, which constitutes Peter and Paul, encloses the soul once more at the resurrection, changed for the better – although surely not this extension which underlay it at the first. For as the form is the same from infancy until old age, even though the features appear to undergo considerable change, so we must suppose that, though its change for the better will be very great, our present form will be the same in the world to come” (from Origen’s commentary on Psalm 1.5, qtd. in Daley, “Hope for Worms,” 155–56). Bynum comments, “This fluctuating mass of matter cannot rise, [Origen] argues; it is not even the same from one day to the next. But, says, Origen, there *is* a body. . . body, as Origen understands it, changes in life; therefore it certainly changes after death” (Bynum, *Resurrection*, 65). Continuing, Origen elaborates, “And just as we would <...> need to have gills and other endowment[s] of fish if it were necessary for us to live underwater in the sea, so those who are going to inherit [the] kingdom of heaven and be in superior places must have spiritual bodies. The previous form does not disappear, even if its transition to the more glorious [state] occurs, just as the form of Jesus, Moses and Elijah in the Transfiguration was not [a] different [one] than what it had been. Moreover <...> ‘it is sown a psychic body, it is raised a spiritual body’ (1 Cor 15.44). <...> [A]lthough the form is saved, *we are going to put away nearly [every] earthly quality in the resurrection* <...> [for] ‘flesh and blood cannot inherit [the] kingdom . . .’ (1 Cor 15.50). Similarly, for the saint there will indeed be [a body] preserved by him who once endured the flesh with form, *but [there] will no longer [be] flesh*; yet the very thing which was once being characterized in the flesh will be characterized in the spiritual body” (quoted in Bynum, *Resurrection*, 65–66, emphasis added).

¹⁹ Ware, “Paul’s Understanding of the Resurrection”, 811.

by no means settled on how Paul understood resurrection. And as James Ware has rightfully pointed out, the theological stakes surrounding the question are high: in the balance hangs fundamental implications for both Christian anthropology (what the human person is) and eschatology (the final hope in things to come).²⁰

Our purpose here is not to evaluate the exegetical or theological merits of these diverse, competing interpretations of 1 Cor 15, but to explore the implications of one – namely, the Irenaean camp – for the purposes of comparing Paul’s solution to similar moves made by Aristotle. To reiterate, against both the Gnostic and Origenist readings of Paul, Irenaeus and the conciliar tradition insist that the resurrection involves the very material, fleshy bodies that we have *now*, transformed by the process as they may be. The subsequent treatment of Paul will operate in this vein.

1.2. Paul’s Case for Continuity and Discontinuity: Putting on Imperishability

Paul’s answer to his question “how can some of you say that there is no resurrection of the dead?” consists of two parts. The first part affirms *that* the dead are raised and involves several lines of argument, all of which are grounded in the faith of the community.²¹ Paul hammers home this first part of his argument with a straightforward syllogism: Christ’s resurrection is an indispensable part of the Christian faith; however, if there’s no resurrection of the dead *at all*, Christ’s resurrection is impossible, and so, as he chides his dubious readers in Corinth, their faith is “in vain” and “futile” (vv. 14, 17). Indeed, he goes so far as to say

²⁰ “This debate has extraordinarily important implications for Paul’s thought. If, on the one hand, Paul envisioned resurrection to either a disembodied or ethereally embodied state, Paul conceived of human redemption as a liberation from the present body and earthly existence, in order to share in the life of the heavenly realms. If, on the other hand, Paul envisioned a resurrection of the flesh, Paul conceived of human redemption as the restoration of the present body and its liberation from death, in order to share in the life of a renewed created order. The latter is a hope for the redemption of this world and this body; the former is a hope that this body and this world will be transcended in a world above” (Ware, “Paul’s Understanding of the Resurrection in 1 Cor 15:36–54”, 816).

²¹ Before even asking the question, Paul begins with a creed-like introduction which reminds the Corinthians of the Gospel message he delivered to them earlier: that Jesus died for their sins, was buried, and was raised on the third day (vv. 3–4). He underscores the latter point by highlighting a series of witnesses to whom the risen Christ appeared, including Cephas (the Aramaic name for Peter), James, the apostles, more than 500 others (some of whom have died in the meantime), and last of all, Paul himself. He concludes his litany of witnesses by reminding those in Corinth that it is through such testimony that they “have come to believe” (v. 11).

that their forgiveness of sins is not simply tied to Jesus' death (v. 3) but also requires his resurrection (v. 17). The ultimate Christian hope is Christ, in whom "all will be made alive" (v. 22). Without the keystone of the risen Jesus, the gospel message falls apart. Belief in the resurrection of the dead is thus non-negotiable.

Paul introduces the second part of his argument with another question: "How are the dead raised? With what kind of body do they come?" (v. 35). Having told those in Corinth that they must believe in a Gospel with resurrection or no Gospel at all ("Let us eat and drink, for tomorrow we may die," v. 32), he now sets out to defend the plausibility of resurrection, lest his readers abandon the faith altogether. His argument turns on a central point: our frail bodies as we know them now stand in both continuity *and* discontinuity with their eventual resurrected status.

At least on an Irenaean reading of Paul, this tension cannot be collapsed in either direction. The dubious Corinthians seem to err on the side of pure continuity, dismissing the sudden reappearance of a body – the deterioration of which they are keenly aware – as implausible. Paul rebukes those tempted to such thinking, "Fool! <...> as for what you sow, you do not sow the body that is to be" (vv. 36-37) and joyfully proclaims, "Listen, I will tell you a mystery! We will not all die, but we will all be changed" (v. 51). And Paul's arguably dualist remark that "flesh and blood cannot inherit the kingdom of God" (v. 50) can be read as rebuke of an understanding of the resurrected body (*soma pneumatikon*) which is excessively continuous with the body which we know now (*soma psychikon*, v. 44). Given his audience, correcting this overly continuous perspective receives the lion's share of Paul's attention.

Nonetheless, Paul's text resists being collapsed in the other direction as well. Against the Gnostic dualists (or even an Origenist moderate), some elements of Paul's story are difficult to parse in starkly discontinuous terms. It is not a story of the dead simply being exchanged for something else, but of the dead *being raised* (v. 52). His hope is not for a bodiless existence or even existence with an altogether different body: rather, in the end, "this perishable body puts on imperishability, and this mortal body puts on immortality" (v. 54). In sum, the good news is not simply that we, in our present bodily weakness and fragility, will be superseded or replaced, but that "we will be changed" (vv. 51, 52).²² Such a tension

²² As Bynum puts it, "two points are clear. First, to Paul, the image of the seed is an image of radical transformation: the wheat that sprouts is different from the bare seed; and that bare seed itself, while

can be observed also in the stories of the risen Christ's appearances contained in the New Testament gospels, which were written in the decades after Paul's letters. The Jesus in these stories is neither a resuscitated corpse nor an immaterial ghost: against the latter, he has "flesh and bones" and left an empty tomb, but against the former he comes and goes inexplicably and is hardly recognized by his closest companions.²³

What should we make of such an early Christian claim of *both* continuity *and* discontinuity? Is it a problematic case of trying to have one's cake and eat it too, refusing a necessary choice and ultimately settling for a nonsensical position? We contend that such an evaluation misconstrues what Paul and like-minded early Christians meant when they described bodily resurrection as a "mystery." Indeed, Aristotle wrestled with a remarkably similar case of continuity and discontinuity when considering natural animal development. Importantly, both Aristotle and Paul insisted that continuity and discontinuity are not simply mutually repugnant opposites but that they can – indeed, must – hang together in an account

lying in the earth, undergoes decay. Second, the image asserts (perhaps, without any intention on the author's part) some kind of continuity, although it does not explicitly lodge identity in either a material or a formal principle. The sheaf of grain is not, in form, the same as the bare seed, nor is it clear that it is made of the same stuff. It acquires a new, a 'spiritual' body. But something accounts for identity. It is *that which is sown* that quickens. If *we* do not rise, Christian preaching is in vain, says Paul; something must guarantee that the subject of resurrection is 'us.' But 'flesh and blood cannot inherit the kingdom.' Heaven is not merely a continuation of earth. Thus, when Paul says 'the trumpet shall sound <...> and we shall be changed,' he means, with all the force of our everyday assumptions, both 'we' and 'changed'" (Bynum, *The Resurrection of the Body*, 6).

²³ Many historical critics rightly warn against reading the gospels as pure journalistic accounts of events objectively reported. Indeed, their genre is different than "biography" in the contemporary sense of that term – the gospels are stories about historical events infused with theological reflection and are told to bring the reader to faith (see John 20.31). Even so, attending to these stories can provide important information about the content *of* that faith, including how early Christians described resurrected existence.

Against a story of pure continuity (simple resuscitation of a corpse), the risen Jesus is not initially recognizable (Luke 24.16), even to his friends (John 20.14, 21.4), and his body does puzzling things like suddenly appearing in locked rooms (John 20.19) and vanishing instantaneously (Luke 24:31). But against a sort of pure discontinuity, his disciples *do* eventually recognize him (Luke 24.31, John 20.16, 21.7), he assures them that he has "flesh and bones" and is not "a ghost" (Luke 24.39), he cooks (John 21.9ff) and eats fish (Luke 24.43), and all four gospels report an empty tomb (Matt 28.6, Mark 16.6, Luke 24.3, John 20.2). On the whole, the gospels do not portray Jesus' resurrection as a mere resuscitation (as was the case with Lazarus in John 11.38-44 – note the way the author contrasts details like burial clothes in the accounts of Lazarus and Jesus, John 20.1-10); at the same time, the empty tomb, in particular, can and has been read as having implications for his corpse that challenge a Gnostic (immaterial) or Origenist (replacement material) account of resurrection. On an Irenaean account, the story is one of both continuity and discontinuity: numerically the same body but utterly transformed.

of growth ordered toward a greater and more fundamental reality. Before seeing how Paul lays out his resolution, we will explain how the same mystery arises in Aristotle.

II. Aristotle: the Puzzle of Animal Generation

Aristotle's innovations in the science of biology were motivated by his own investigations into the complexities of animal life. It is well-known that he developed a taxonomy for classifying animals at more and less general levels of similarity, taking pains to consider all the differences between animals that might be relevant without oversimplifying the dizzying biological details. Aristotle's engagement with the *generation* of animals—the process of development from embryo to mature organism—is no less impressive in this respect. Here Aristotle deals with the dilemma of continuity and discontinuity that arises during *natural* animal development—a dilemma analogous, as we will see, to the one we have explored in Paul's letter regarding the shift between earthly and resurrected bodily life. Moreover, in so doing Aristotle argues, just as Paul did, against those who have chosen to embrace one horn of the dilemma at the expense of the other.

II.1 Background: Aristotle on Animal Generation

Aristotle denies pangenetic accounts of animal development on which, as H. de Ley puts it, “the development of the embryo is merely the enlargement and manifestation of structures already ‘preformed’ in the seed.”²⁴ Such accounts were espoused by Democritus and Anaxagoras among others. Aristotle not only embraces but explores the discontinuity between different stages of animal generation in detail, devoting considerable attention to the order in which the different parts develop. In stark contrast to pangenetic views, he concludes in *Generation of Animals* (GA) that “the end [of animal development] is earlier than some parts and later than others” (742^b11-2). At the same time, however, Aristotle denies the Empedoclean view that the various parts of the animal and the developmental processes that yield each of them are distinct—indeed separable—existences that merely happen to occur

²⁴ “Pangenesis versus Panspermia Democritean Notes on Aristotle's Generation of Animals”, *Hermes* 108.2 (1980): 129-153 at 130.

contiguously in time and space. He concludes instead that these different processes are all stages in the unified and ongoing development of *one single living body*.²⁵

Aristotle's disavowal of a purely continuous account of the generation of an animal body parallels Paul's disavowal of a purely continuous account of the resurrection of the body, i.e. one that sees the resurrected body merely as a resuscitated corpse. And Aristotle's disavowal of a purely discontinuous account of animal generation parallels Paul's disavowal of a purely discontinuous account of bodily resurrection, i.e. one that sees the resurrected life as immaterial (Gnostic) or with a *different* body altogether (Origenist). In the rest of this section we will establish Aristotle's seemingly dilemmatic commitment to both the continuity *and* the discontinuity of animal development by investigating his opposition to his predecessors who privileged one over (indeed, even at the expense of) the other.

II.2. Aristotle vs. Empedocles and Anaxagoras: the Case for Continuity and Discontinuity

Aristotle broadly criticized his predecessors in natural science for having a narrow engagement with natural phenomena, for imposing theories that sound compelling but fail to map onto a wide enough array of cases in nature.²⁶ One such predecessor was Empedocles, who viewed animal development as a discontinuous series of stages. Indeed, as Aristotle points out in *GA* 1.18, Empedocles goes so far as to claim that individual parts of an animal can, not only in principle but indeed under the conditions present during the cosmic era Empedocles calls the "Reign of Love," develop by themselves independently of the other parts we usually see in that kind of animal—that is, individual developmental stages *can* occur in abstraction from the process of development associated with an animal taken as a

²⁵ As Allan Gotthelf and Andrea Falcon put it, "the formation and development of the embryo are to be conceived as a single, unified process controlled by a single causal power" ("One Long Argument"? The Unity of Aristotle's *Generation of Animals*", in *Aristotle's Generation of Animals: A Critical Guide*, ed. Andrea Falcon and David LeFebvre [Cambridge: Cambridge University Press, 2018], 15-34 at 27).

²⁶ Sean Kelsey, "Empty Words," in *Theory and Practice in Aristotle's Natural Science*, ed. David Ebrey (Cambridge: Cambridge University Press, 2015), 199-216. Kelsey discusses Aristotle's critique of predecessors such as Empedocles for succumbing to the risk "that over-emphasizes argumentation (λόγοι) at the expense of a broad, deep, and personal familiarity with the realities (πράγματα)" (216).

whole. During the “Reign of Love”, Empedocles states, “‘many heads sprang up without necks’, and later on these isolated parts combined into animals” (722b20-21).

These passages show that Empedocles fully embraced the discontinuity involved in the process of animal generation, at the expense of any continuity whatsoever. Although an animal’s parts happen to develop one after the other in a certain order and relationship, this broader context of animal generation taken as a whole is irrelevant to the nature and generation of each part taken singly. On an Empedoclean view of animal generation the shorter stages and the individual parts yielded by them are the independently intelligible phenomena, while the development of the animal taken as a whole is to be understood merely as a conglomeration of these shorter stages. For Empedocles, there is no *ongoing unity of the body as a whole* throughout the process of animal generation, but merely a contiguous series of separable parts.

Aristotle clearly disavows Empedocles’s discontinuous account of animal generation: “Now that *this* is impossible is plain, for neither would the separate parts be able to survive without having any soul or life in them, nor if they were living things, so to say, could several of them combine so as to become one animal again” (722b22-24). But he goes further than affirming the mere impossibility of this view; he also decries it as “unintelligible” (*alogos*) (722b30). His point is not merely that Empedocles’s far-fetched story could not possibly occur; it is the deeper point that it does not meet the criteria for counting as a genuine explanation. Why? First, he believes that the separate parts cannot survive without being connected together in the unified life of the animal; thus it is unreasonable to suppose that they could come into being separately and then be melded together. But moreover, as Aristotle goes on to explain, even if we overlook this difficulty and hypothesize that the parts *could* exist and survive separately, there would then be no reason to suppose they would ever come together as a unified creature—they would be analogous to separate animals. The fact that time and time again we *do* find them growing together in the *unified* life of a whole animal of a certain kind, then, is evidence that the separate parts of the animal, along with the separate stages of animal generation that give rise to each part, are not to be explained in discontinuous abstraction from the whole. In short, Aristotle discredits the intelligibility of the Empedoclean view precisely because it analyzes animal generation as a discontinuous process.

Aristotle is equally opposed to an Anaxagorean pangenetic view of animal generation, according to which the apparent differentiation of an animal's parts occurs "because like is naturally carried to like" (740b14-15). Such a view would have it that within the *sperma*, the pre-existent reproductive fluid responsible for animal generation (Aristotle's "general name for semen and menstrual fluid," as Anthony Preus puts it²⁷), the various parts of the animal are already actually present, needing only to be unmixed or separated out. Since Anaxagoras's view focuses on undifferentiated parts like flesh and bone (rather than on organs like heart or eye), Aristotle summarizes his view as the view that "none of the homogeneous parts come into being" (723a5-7). In *GA* 2.4 he discusses the implications of this view for animal generation thus:

But the parts are not differentiated, as some suppose, because like is naturally carried to like. Besides many other difficulties involved in this theory, it results from it that the homogeneous parts ought to come into being each one separate from the rest, as bones and sinews by themselves, and flesh by itself, if one should accept this cause. (740b12-19)

On the one hand, this view simply makes incorrect predictions: flesh, bone, and sinew come together during animal generation in a complex web of interaction right from their first appearance, not in three separate zones that later undergo mixing. Further, as he lays out in *GA* 1.18, "Nor can we say that it is increased later by a process of mixing, as wine when water is poured into it. For in that case each element would be itself *at first* while still unmixed, but the fact rather is that flesh and bone and each of the other parts is such *later*. And to say that some part of the *sperma* is sinew and bone is quite above us, as the saying is" (723a16-21). The point here is that parts like flesh, bone, and sinew manifestly arise *later* in the process of development, not from the start; affirming sinew and bone to be actually present in the originating *sperma* would thus have a purely theoretical basis, with no connection to the facts we observe on the ground.

But the trouble with the view goes deeper than the mere fact that it makes incorrect predictions, or at least predictions that are "quite above us" in the sense that they cannot be investigated via the facts on the ground but are doomed to remain purely theoretical. As he did with Empedocles, Aristotle goes deeper and critiques the *intelligibility* of this explanation:

²⁷ "Science and Philosophy in Aristotle's *Generation of Animals*", *Journal of the History of Biology* 3.1 (1970): 1-52 at 7.

[H]ow will the *sperma* become greater by the addition of something else if that which is added remain unchanged? But if that which is added *can* change [*metaballein*], then why not say that the *sperma* from the very first is of such a kind that blood and flesh can be made out of it, instead of saying that it itself *is* blood and flesh? (723a12-17)

Aristotle's trouble with the intelligibility of the Anaxagorean view, in short, lies with that view's implication that animal generation is *merely* a process in which already existing parts undergo *growth*, not a process whereby any new parts come into being. The problem is that the *sperma* could not even *grow* if that which was added to it in the process of growth were to simply remain what it was; the result of such an addition would be no more than a mixture of *sperma* with something else, not a genuine growth of *sperma*. Therefore, at the expense of making growth impossible, even a proponent of this view must maintain that what is added to *sperma* in the process of growth can change into *sperma*. But as long as this must be maintained, why not maintain straightaway that the *sperma* itself can undergo change? What is to be gained by having the *sperma* as an unchanging "middle man" in the process of development, when change must be introduced at the next stage anyway? In short, Aristotle's critique of the intelligibility of this explanation targets the fact that it analyzes animal generation in a purely continuous fashion, disallowing any genuine coming into being of parts that were not already present.

III. Aristotle on Continuity and Discontinuity: Growing Toward a Solution

But what positive view of animal generation opposes both the Empedoclean and the Anaxagorean views? How can we ensure that the requirement for *continuity* in the process as a whole does not conflict with the requirement that there is genuine coming into being of all the various parts, i.e. genuine *discontinuity* from stage to stage? In this section I will argue that Aristotle achieves this alternative by denying a premise shared by both Empedocles and Anaxagoras. Aristotle claims that scientific engagement into the process of animal generation must be careful not to mistake the temporal order, the order in which an animal *develops*, for the order that reveals and explains the *being and nature* of animals. As he puts the point:

[W]hen we are dealing with definite and ordered products of nature, we must not say that each *is* of a certain quality because it *becomes* so, rather that they *become* so and so because they *are* so and so, for the process of becoming attends upon being and is for the sake of being, not vice versa. (778b2-6)

III.1. Aristotle's Key Insight: *Becoming for the Sake of Being*

What does Aristotle mean by his cryptic refrain that becoming is for the sake of being, not vice versa? 'Being' in this context is, for Aristotle, a generalized way of referring to the nature of a specific kind of animal taken as a whole, e.g. the way in which all the different parts of an elephant fit together, and the priority or dependency relationships that obtain between those parts, in the life activity characteristic of elephants. 'Coming to be' is a generalized way of referring to the developmental process for a certain kind of animal, e.g. the temporal order in which the parts of an elephant are each completed. The upshot of this refrain, then, is that priority in *being* cannot simply be read off the *temporal* order of priority we see in the developmental process; just because one part may come into being before another part does not mean that the earlier part is prior in *being* to the later part. Rather, we must understand the developmental order of the elephant's parts by reference to the relationships between those parts in the order of *being*. It is not the order of *development*, but rather the order of *being*, that is independently intelligible.

In the very first chapter of *PA* he is at pains to emphasize that there is a connection between how he explains the *parts* of an animal and how he will explain the *generation* of an animal:

The fittest mode, then, of treatment is to say, *a man has such and such parts, because the essence of man is such and such*, and because they are necessary conditions of his existence, or, if we cannot quite say this then the next thing to it, namely, that it is either quite impossible for a man to exist without them, or, at any rate, that it is good that they should be there. *And this follows: because man is such and such the process of his development is necessarily such as it is; and therefore this part is formed first, that next; and after a like fashion should we explain the generation of all other works of nature.* (640a33-640b4; emphasis added)

This passage reveals that Aristotle's commitment to the priority of the order of *being* over the order of *coming to be* for an animal is founded on a commitment of his familiar from *On the Soul* 2.1: that, as we see in the first sentence of the above passage, a living thing's parts are dependent—both ontologically and explanatorily—on the essence of the *whole* living thing, since it is only in the context of the whole living thing that they can achieve their function.²⁸ The result is that for Aristotle, the whole living being is both ontologically and

²⁸ Consider, for example, his well-known assertion that an eye without sight is an eye in name only (*De Anima* 2.1, 412b17-22). As James G. Lennox explains, "For Aristotle the idea of the whole

explanatorily prior to its parts. And given that what it is to be a certain *part* of an animal can only be explained by reference to what it is to be the *whole* animal—i.e. given that the essence or nature of the whole is prior to the essence or nature of the part—it follows that individual stages of animal development, considered in abstraction from other stages, will lack full intelligibility in their own right. For to explain individual stages in abstraction from other stages would just be to explain the *parts* present during those stages in abstraction from the whole. Given Aristotle's commitment to the ontological and explanatory priority of the whole over the parts, then, it follows that the temporal order in which an animal's parts develop is not independently intelligible.

Empedocles and Anaxagoras may seem on the face of it to hold opposing views, but at a deeper level both agree in affirming, contrary to Aristotle's innovative claim, that the order of becoming *is* ontologically and explanatorily prior to that of the being or nature of the animal taken as a whole. For both assume that the explanation of earlier developmental stages cannot depend on the parts yet to be developed in later stages (and thus cannot depend on the process as a whole). Empedocles, as we have seen, argued that the developmental stages for each part of an animal *are* intelligible apart from the developmental process taken as a whole—indeed, he went so far as to take them to be ontologically separable from the whole animal (as evidenced during his “Reign of Love”). If Empedocles is right, the temporal order does reveal the order of being: just as the parts of the animal come to be independently from the whole in the temporal order, so the *being* of each part is separate from that of the whole. The fact that many parts come to be in *temporal* separation from the whole reveals a deeper *ontological* separability for each part—the parts must be prior to the whole. Ontological priority is to be read off temporal priority.

On Anaxagoras's view the temporal order likewise matches the order of being for the animal, but for a different reason: all the parts of the animal there ever will be are *already* present from the initial stage of development (in the *sperma*). There is never a mismatch between the order of temporality and the order of being, but this lack of mismatch is due to the complete denial of any genuine discontinuity in the temporal order. Whereas Empedocles admits genuine discontinuity in the order of temporal development (that some parts come to

organism as a functional unity is bedrock. <...> That the performance of its living activities requires distinguishable parts with their own specific functional capacities come second” (“An Aristotelian Philosophy of Biology: Form, Function, and Development”, in *Acta Philosophica* 1:26 (2017): 33-52 at 43).

be earlier and others later), and divides the order of being according to the divisions we see in the temporal order, Anaxagoras denies that the temporal order of development admits of any genuine division. It is simply the continuous *growth* of parts already there from the start. Anaxagoras thus allows for continuity in the order of being (contra Empedocles), but only because he likewise posits continuity in the temporal order of development. Although we cannot easily observe them until later, all the parts are there from the beginning to the end of the process—thus again, temporal priority is the window to ontological priority.

On both accounts, the temporal order reveals the way things *are*. What is temporally prior *is* ontologically prior, and thus independently intelligible—either because (for Empedocles) individual stages of development are independently intelligible, yielding a thoroughly discontinuous account of animal generation as a series of independent stages rather than as the growth of *one* body, or because (for Anaxagoras) everything present at the end of the process of development *already was* at the beginning, yielding a purely continuous understanding of animal generation. Aristotle's goal in claiming that the order of being cannot be read off the order of becoming is to embrace both genuine discontinuity *and* genuine continuity within the process of development. Contra Anaxagoras, different parts do develop at different stages, and contra Empedocles, development is not simply a hodgepodge of independent stages but the unified coming into being of a *single* animal body. Embracing both continuity and discontinuity in the developmental process is only genuinely dilemmatic if we assume that the temporal order reveals the ontological order.

III.2. *The Greater Reality: Aristotle's Teleological Basis for Animal Generation*

Aristotle is committed to the claim that just because a certain bodily part exists first *temporally* does not mean that that part is prior in being (i.e. ontologically prior) to the parts that come later. But how are we to understand the order of being, if *not* via the temporal order? What is the alternative? For Aristotle the order of being is mapped not by the distinction between being earlier or later in time, but rather by the teleological distinction between *potentiality* and *actuality*—what is potentially is posterior in being to what is actually, even if what is potentially may be found earlier in time than what is actually. Aristotle sometimes makes the point by claiming that what is in potentiality is *for the sake of*

what is actually, just as we have seen him claim that becoming is for the sake of being. The relationship between potentiality and actuality is thus teleological.

In *GA* 2.4 Aristotle uses this insight to distinguish his view about *sperma* from the Anaxagorean pangenetic view, according to which, as we have seen, all the parts of the body are already embedded in the *sperma* from the start: “The real cause why each of them [the parts of the animal body] comes into being is that the residue of the female is potentially such as the animal is naturally, and all the parts are potentially present in it, but none actually” (740^b14-21). As Sophia Connell explains, “Employing the potentiality/actuality distinction, which he thinks his opponents failed to hit upon, Aristotle posits that semen [*sperma*] is potentially capable of being the parts of the body rather than actually having been them”.²⁹ This distinction between potentiality and actuality explains how *sperma*, though temporally prior to the developed animal body with its differentiated parts, is nonetheless *posterior in being* to the developed animal body. For *sperma* is to be defined in terms of the developed animal, as all potentialities are defined in terms of their actualities, not the reverse. Aristotle drives home this mismatch between the ontological and temporal orders in *PA* 2.1: “In order of time, then, the material and the generative process must necessarily be anterior; but in logical order the substance and form of each being precedes the material...” (646b1-3).

Further, the actuality of the animal—its *being*—is not achieved all at once, but gradually over the course of animal development:

So it is not easy to distinguish which of the parts are prior, those which are for the sake of another or that for the sake of which are the former. For the parts which cause the movement, being prior to the end in order of development, come in to cause confusion . . . And yet it is in accordance with this method that we must inquire what comes into being after what; for *the end is later than some parts and earlier than others* [my emphasis]. (742b3-12)

The end or goal (*telos*) of development is the ‘actuality’ of an animal (in terms of which purely potential stages like the *sperma* are to be defined). It is neither already present at an early stage as Anaxagoras affirmed, nor *not* present until some momentous later stage. Nor is it divided into separable stages, so that whatever arises at each moment in time is

²⁹ *Aristotle on Female Animals: A Study of the Generation of Animals* (Cambridge: Cambridge University Press, 2016), 100.

independent in being as Empedocles affirmed.³⁰ Instead, for Aristotle the ‘end’ of animal development is achieved, part by part, over the process *taken as a whole*. Thus, animal generation is not a series of separable stages as Empedocles had it, but the unified development of the originating *sperma* into the actuality for which it was in potentiality: namely, the animal body with all its different parts. The stages which are not part of the ‘end’ depend on and are to be understood in terms of the ‘end,’ even if they appear in temporal separation from other stages; and each individual part that does make up the ‘end’ of the animal is dependent on that ‘end’ *taken as a whole*. Neither, of course, is development a purely continuous Anaxagorean unmixing of pre-existent parts; for different parts genuinely *come to be* at different stages in the process.

Since Allan Gotthelf’s deeply influential article on Aristotle’s teleology in 1976, the literature on this topic has largely focused on the extent to which the development of an animal is the result of capacities or potentialities possessed by the lower-level material elements (fire, earth, air, water) involved in the composition of that animal or whether it is also due to, as Gotthelf puts it, “an irreducible potential for an organism of that form.”³¹ This question makes the relevance of teleology turn on whether there is or is not a full explanation at the level of the elements, or whether there are “gaps” in the elemental story for teleology to fill in. But Aristotle’s disagreement with Empedocles and Anaxagoras reveals an important role for teleology that is independent of this issue: to allow him to embrace both the manifest discontinuity between individual stages of development *and* the continuity of the process taken as a whole.

IV. *Paul and the Greeks: Growing Toward a Solution*

³⁰ For example, Aristotle claims that the heart arises first, as most essential to the life of the organism, and the liver after that (734a28-9). The eyes arise much later, but are still part of the *end* of development (744b10-11).

³¹ “Aristotle’s Conception of Final Causality”, *Review of Metaphysics* 30.2 (1976): 226-254 at 250. Rival conceptions of final causality still often define themselves by this same question about the relationship between teleological causation and the causal capacities of independently intelligible materials, though giving different answers to it. For example, Michael Bradie and Fred D. Miller (“Teleology and Natural Necessity in Aristotle”, *History of Philosophy Quarterly* 1:2 [1984]: 133-146) argue that teleological causation may be compatible with a full material account of generation at some material level other than that of Aristotle’s four elements. Richard Sorabji argues that teleological causation may be compatible with a full material account of generation at the level of the four elements (*Necessity, Cause, and Blame: Perspectives on Aristotle’s Theory* [London: Duckworth, 1980], 145-154).

As we saw earlier, Paul's community at Corinth, respectable Greeks as they were, harbored significant suspicions about the notion of bodily resurrection that Paul brought from his own Jewish context. The Greeks were familiar with what happens to our weak, transient bodies upon death; for them, talk of the afterlife was comfortably couched in either mythological terms (e.g. shades in Hades) or Platonic philosophical terms (e.g. souls contemplating immaterial forms), neither of which involved the messy idea of resuscitated flesh.

Addressing such an audience, Paul offered a two-sided message of both continuity and discontinuity. On the one hand, and against any suspicions of a base, reanimated corpse, Paul insisted that the resurrection is not simply a continuation of earlier bodily life, a mere resuscitation of what was already previously there. Things will not remain as they are: "we will all be changed" (v. 51). On the other hand, at least on an Irenaeian reading, Paul is not advocating utter rupture with the past, as would occur with a purely immaterial "resurrection" (e.g. the Gnostics) or discarding the body in favor of an upgraded, more refined replacement (e.g. Origen). Indeed, "*we* will all be changed," as "this perishable body puts on imperishability, and this mortal body puts on immortality" (v. 54).³² Salvation for Paul is not a dualist escape from or replacement of the material world we know, but a wondrous transformation of it.

We closed our earlier considerations of Paul with a question that Aristotle likewise wrestled with: how can such continuity and discontinuity go together? Paul's response that such continuous and discontinuous resurrected life is "a mystery!" (v. 51) might tempt one to think that his paradox is at root a contradiction that he simply will not (or cannot) address. However, other parts of Paul's letter indicate that this "mystery" is not a means of punting or burying the question. Rather, he uses this term to gesture toward a solution to the question, a solution that bears remarkable parallels with Aristotle's answer to the dilemma we just saw: a process of growth and development toward a greater reality that transcends the temporal order.

³² Cf. Athanasius of Alexandria (d. 373 C.E.) who in exegeting 1 Cor 15 and "blessed Paul, through whom we all have surety of the resurrection", writes, "Like seeds cast into the earth, we do not perish in our dissolution, but like them shall rise again" (*On the Incarnation* 4.21, (Crestwood, NY: St. Vladimir's Seminary Press, 2003), 50).

IV.1. *Paul's Analogy: The Body as a Seed*

After arguing *that* the dead are raised, Paul starts off his account of *how* the body is raised by chiding the dubious Corinthians for their narrow imaginations. “Fool!” he begins, “What you sow does not come to life unless it dies. And as for what you sow, you do not sow the body that is to be” (vv. 36-37). In what follows, Paul explains that “flesh” (*sarx*) and “body” (*soma*) are not homogeneous realities; rather, they occur in a dizzyingly diverse number of forms.

Not all flesh is alike, but there is one flesh for human beings, another for animals, another for birds, and another for fish. There are both heavenly bodies and earthly bodies, but the glory of the heavenly is one thing, and that of the earthly is another. There is one glory of the sun, and another glory of the moon, and another glory of the stars; indeed, star differs from star in glory. (vv. 39-41)

Bodily life encompasses an enormous array of possibilities, some of which are even “heavenly.”

Paul’s analogy of the seed presupposes and builds on this scope of possibilities. After all, it is not immediately apparent why the mere existence of other kinds of bodily life should concern the dubious Corinthian – sure, the sun may have a body which is heavenly, but her own is not! The work done by Paul’s analogy of the seed is to link together one’s present bodily life with other possibilities. Having chided the Corinthians for assuming that bodily life as they know it is the end of the story, he invites them to consider the possibility that it is actually just a beginning stage: “as for what you sow, you do not sow the body that is to be, but a bare seed, perhaps of wheat or of some other grain” (v. 37). Drawing on an eminently familiar natural example, the growth of a plant from a seed, Paul defends the plausibility of transformation into something else, something fuller and greater than the present reality.³³

³³ “In the argument of Hellenistic rhetoric metaphors are singularly important providing they are ‘neither strange nor superficial,’ says Aristotle (*Art of Rhetoric* 3.10.6). Aristotle went on to say that ‘smart sayings’ are derived from metaphor (*Art of Rhetoric* 3.11.1, 6). ‘It becomes evident to him [the hearer],’ says Aristotle, ‘that he has learnt something, when the conclusion turns out contrary to his expectation, and the mind seems to say, “How true it is! but I missed it”’ (*Art of Rhetoric* 3.11.6). To meet Jewish speculation as to the nature of the resurrected body for the benefit of a Hellenistic community, some of whose members denied the possibility of the resurrection of the dead, Paul uses analogies drawn from the world of everyday experience. These were neither strange nor superficial. The first set of analogies is agricultural (vv. 36-38), the second zoological (v. 39), the third astronomical (vv. 40-41). The analogies speak to the unspeakable (see 2:9)” (Collins, *First Corinthians*, 563).

Indeed, an acorn placed into the ground does not produce simply another acorn but a magnificent oak tree. Analogously, Paul seems to say, our weak flesh placed into the ground does not produce a mere reanimated corpse but something far greater: a *soma pneumatikon*, a spiritual body marked by imperishability, glory, and power (vv. 42-43). The seed may indeed die, but it is not the seed with all its transient qualities that we should fixate upon: our attention should turn to the transformation arising out of it.

The process of the seed's growth reinforces and ties together Paul's central message about continuity and discontinuity. Let us consider for a moment Paul's explanation, "What you sow does not come to life unless it dies" (v. 36) a bit more closely. Reading this explanation in light of Paul's later explanation of what is "sown" and what "come[s] to life" (namely, "It is sown a physical body, it is raised a spiritual body," v. 44), we can specify the following: "What you sow (i.e. the physical body) does not come to life (i.e. the spiritual body) unless it dies." Such a statement affirms clear discontinuity: the physical body, which stands as the *terminus a quo*, dies. At the same time, Paul's statement implies an incredible continuity: in this process of growth, which is from the "seed's" perspective a death, the physical body *becomes* the spiritual body (the *terminus ad quem*). To use Paul's own words, precisely "what you sow" indeed "come[s] to life." In this familiar (though nonetheless mysterious) analogy of the seed growing toward a greater reality, Paul integrates his twin themes of continuity and discontinuity into a single, intelligible story of transformation.

IV.2. *The Greater Reality: Paul's Christological Basis for Resurrection*

We saw above that for Aristotle's account of an animal's development out of earlier material, the temporal order does not take priority. Rather, the actuality of the organism takes priority, and this is achieved in pieces throughout the temporal span of animal development. In other words, for Aristotle the temporal order cedes priority to the ontological order.

Paul makes an analogous move. Part of Paul's problem with the dubious Corinthians is that they get things backwards by assuming that the body *to be* should be understood in terms of the body that *already is*, rather than vice versa—just as Empedocles and Anaxagoras understand later stages of development in terms of what exists earlier in development. Accordingly, their vision of any resurrected body is constrained to readily familiar categories,

and so it is no wonder that such a vision (perhaps something akin to reanimated zombies!) is something they hesitate to accept.

In his letter, Paul invites the Corinthians to turn their vision of things that are and things to be on its head. Paul admits that, temporally speaking, the “physical body” comes first: “it is not the spiritual that is first, but the physical, and then the spiritual” (v. 46). But in the same breath, he pleads with his readers not to stop at that first step. Just as one ought not to expect a giant acorn to emerge from the ground, but rather an oak tree, the Corinthians ought to understand *this* body not as a static norm but as a predecessor, a stage that leads to a greater reality, the “spiritual body”. Paul, like Aristotle, appeals to an order of priority beyond the temporal order—one that does not prioritize the “physical” body.

Now admittedly, for as striking as the parallels between the two cases are, such philosophical language regarding “orders of priority” sits a bit uncomfortably within an exegesis of Paul, who was less concerned with lecturing on metaphysics and more with preaching his Gospel. However, there are resources within Paul’s work that allow for us to make the case for an order of priority weightier than the temporal order, though articulated more specifically in Paul’s own terms. Along with his implicit prioritization of the plant (e.g. the oak tree) over the seed (acorn) in 1 Cor 15, Paul’s letters gesture toward what we might call a *Christological* order of priority that stands as an essential part of his account of resurrection. Paul’s explicit appeal to this Christological priority make for an intriguing early Christian point of comparison with Aristotle, who likewise accounted for the “mystery” of continuity and discontinuity in development by situating the temporal order in subservience to a greater unfolding reality. Let us elaborate on what Paul has in mind with such a Christological priority.

Immediately after raising his analogy of the seed progressing into a wondrously transformed plant, Paul presents another *specifically human* case of *termini a quo* and *ad quem*, namely, the “first man, Adam” and “the last Adam,” Jesus: “It is sown a physical body, it is raised a spiritual body. If there is a physical body, there is also a spiritual body. Thus it is written, ‘The first man, Adam, became a living being’; the last Adam became a life-giving spirit” (vv. 44-45). Elaborating on his allusion to the creation story in which “the LORD God formed man from the dust of the ground, and breathed into his nostrils the breath of life; and the man became a living being” (Gen 2.7), Paul continues, “The first man was from the earth, a man of dust; the second man is from heaven” (v. 47). The two “Adams” present two

possibilities for human life, the earlier and the later, the “earthly” and the “heavenly,” the “physical” and the “spiritual”.

Importantly, when Paul appeals to the “spiritual body” in which resurrected humans will live, he is not referring simply to a discrete, private individual reality. Rather, as he makes clear in this and other letters, Paul understands each of us to be caught up in a larger human corporate identity, grounded finally in Christ. “Just as we have borne the image of the man of dust, we will also bear the image of the man of heaven” (v. 49).³⁴ Christ thus has an inescapably outsized place in Paul’s thinking about the resurrection. Not only is Jesus a key *example* of resurrected life, a “first fruits” (v. 20ff) who gives us a sneak preview of things to come,³⁵ but he encompasses *all* who will live in resurrected bodies. Indeed, as Paul already indicated earlier in his argument, all may “die in Adam,” but “all will be made alive in Christ” (v. 22).

Paul’s vision of all being alive “in” Christ hearkens back to a theme he raises at multiple points earlier in the letter. Addressing factions and rivalries in the church community at Corinth, he urged his readers to recall that “you are the body of Christ and individually members of it” (12.27). Indeed, “just as the body is one and has many members, and all the

³⁴ See Paul’s later letter to the Romans where he makes a very similar move: “Therefore, just as sin came into the world through one man, and death came through sin, and so death spread to all because all have sinned— sin was indeed in the world before the law, but sin is not reckoned when there is no law. Yet death exercised dominion from Adam to Moses, even over those whose sins were not like the transgression of Adam, who is a type of the one who was to come. But the free gift is not like the trespass. For if the many died through the one man’s trespass, much more surely have the grace of God and the free gift in the grace of the one man, Jesus Christ, abounded for the many. And the free gift is not like the effect of the one man’s sin. For the judgement following one trespass brought condemnation, but the free gift following many trespasses brings justification. If, because of the one man’s trespass, death exercised dominion through that one, much more surely will those who receive the abundance of grace and the free gift of righteousness exercise dominion in life through the one man, Jesus Christ. Therefore just as one man’s trespass led to condemnation for all, so one man’s act of righteousness leads to justification and life for all. For just as by the one man’s disobedience the many were made sinners, so by the one man’s obedience the many will be made righteous. But law came in, with the result that the trespass multiplied; but where sin increased, grace abounded all the more, so that, just as sin exercised dominion in death, so grace might also exercise dominion through justification leading to eternal life through Jesus Christ our Lord” (5.12-21).

³⁵ Collins explains Paul’s usage of “first fruits” imagery: First fruits are, “literally, the first portion of an agricultural harvest, the thing that precedes the rest of the harvest. As such it is a harbinger of things to come. The notion implies not only a temporal sequence but also some sort of relationship between the firstfruits and the later harvest: the harvest of firstfruits serves almost as a guarantee of the later harvest(s). It suggests, but does not actually prove, that a later harvest will take place” (Collins, *First Corinthians*, 547-48).

members of the body, though many, are one body, so it is with Christ. For in the one Spirit we were all baptized into one body” (12.12-13).³⁶ And earlier in the letter, exhorting the Corinthians to maintain bodily purity, he explicitly links this theme of incorporation with resurrection: “and God raised the Lord and will also raise us by his power. Do you not know that your bodies are members of Christ?” (6.14-15).

Any consideration of Pauline notions of resurrection needs to take this language very seriously. As the great liberation theologian Gustavo Gutiérrez has pointed out, Paul “use[s] the word body in a supra-individual perspective. Body is a factor in solidarity, and the body of Christ is the entire Christian community”.³⁷ Gutiérrez continues, “Readers often regard this theology of the church as simply a beautiful metaphor. However, we must, shocking though this idea may be, see through to the realism that characterizes the Pauline approach. He is speaking of the real body of Christ, which he looks upon as an extension of the incarnation”.³⁸ On such an outlook, Christians ought to understand their bodies not through the lens of the present temporal order or even exclusively individually as their own, but as incorporated into the glorified body of the risen Jesus.

Such an outlook helps to make sense of why Paul began his argument *that* the body is resurrected with a discussion of Jesus. On one level, his exhortation stands as a syllogistic argument: unless, generally, there is *some* resurrection of the body, you cannot have the *specific* resurrection of Jesus, which is a non-negotiable of the faith. On a second level, though, by considering Paul’s theology of “membership” and incorporation into Christ, we begin to see *why* Jesus’ resurrection stands as a non-negotiable of the faith. It is a *sine qua non* for any human resurrection, since all who will be raised “will be made alive in Christ” (v. 22), as members of his body. The entirety of Paul’s soteriological hope is constructed upon the person of Jesus, who as the “last Adam” sums up how humanity will one day live – and indeed is already beginning to live – anew.

There is indeed *some* temporal element to Paul’s theory of the “first man, Adam” and the “last Adam,” but the final word belongs to a reality greater than the temporal one. The

³⁶ See also Rom 12.5, where Paul writes, “we, who are many, are one body in Christ, and individually we are members one of another.”

³⁷ Gustavo Gutiérrez, *We Drink from Our Own Wells: The Spiritual Journey of a People* (Maryknoll, NY: Orbis, 1984), 68.

³⁸ Gutiérrez, *We Drink from Our Own Wells*, 69.

first Adam may have temporal priority but new life is found in the *last* one. But, just as Aristotle's notion of the *actuality* of the body is not to be relegated simply to the temporal end of animal development, so Christ's import does not lie simply in coming at the "end," temporally understood, for life has continued for two decades between Jesus' death and Paul's letter here, with Christ's disciples living and even dying in the meantime (v. 6). Nonetheless, their own hope was bound up with the fate of this man who came before them and who has inaugurated a new, risen life. In both his analogy of the seed and his discussion of Jesus and the resurrection, Paul points beyond a sort of temporal order for thinking about the problem. In the end, his hope and vision for the resurrection is grounded in a Christological order.

By insisting on both continuity and discontinuity in his letter to the dubious Corinthians, Paul is not settling for incoherency and contradiction. After all, it seems perfectly coherent to recognize that a seed in some ways *is* and in others *is not* the same as the plant that follows. Rather, Paul's letter is a plea to those who are familiar only with the "acorn" to widen their worldview to account for the "oak tree" that it has yet to become. And just as the oak tree teleologically grounds the best understanding of the acorn which precedes it, so the body of the risen Christ, with all its individual members, anchors Paul's hope in resurrected human life to come.

Conclusion

Presented with questions about bodily change, both Aristotle and Paul faced a seeming dilemma: should they emphasize the body's identity through the process of transformation, at the risk of undermining genuine change? For Paul, such a route was a non-starter for his church in Corinth, who knew what happened to bodies placed into the ground and who had no time for tales of their reanimation. For Aristotle, this same emphasis on identity yielded a theory like Anaxagoras's, according to which animal development is reduced to the manifestation of parts that were already there (even if unobserved) in the first place – and such a theory fails to be animal *development* in much of a meaningful sense at all.

On the other hand, should they instead opt for bodily discontinuity, at the risk of compromising its identity through the process? Such an option, appealing though it may be

to dualistic Gnostic sensibilities, ran counter to Paul's hopeful message that precisely what is sown in death is raised to new life, the message that *we* (rather than others) will be changed. Likewise, stark discontinuity in animal generation gravitated toward an Empedoclean theory in which the various parts and stages of development are not only independently intelligible, but even under certain circumstances *independently existing*. Just as Paul resisted severing resurrected life from his hope for the present world, Aristotle resisted theories which severed the stages of animal development from each other, on which "heads sprang up without necks".

Ultimately, each refused this dilemma as a false one rooted in an outlook which unnecessarily privileges temporal priority. Anaxagoras, Empedocles, the dubious Corinthians, and even the Gnostics all granted a normativity to earlier stages of bodily development that controlled their visions of later ones, later stages of growth which became construed as posterior not only temporally, but explanatorily and ontologically as well.

In refusing to pick one horn of the dilemma, Paul and Aristotle each invite their audiences to integrate both continuity and discontinuity into a new conceptual framework which privileges not temporal priority but the *whole* toward which earlier stages, in all their potency, develop. Aristotle's teleological emphasis on the actuality of the whole organism in order to understand earlier stages parallels Paul's pleas to construe the seed in terms of the plant to come, the "man of dust" in terms of the "man of heaven," and ultimately each individual human life as part of a greater integrative whole, the body of Christ.

Their proclamations of a new conceptual framework for understanding bodily development are announcements of "mystery." Importantly, mystery ought not to be taken as incoherence, contradiction, or even just an absence of knowledge. Rather, mystery refers to the rich implications contained within the things that we *do* know but which have yet to be fully appreciated and explored. Just as Heraclitus announced the presence of "divinities" in his kitchen, Aristotle and Paul invite their readers to consider mundane parts of their world – whether *sperma* or a failing body – as filled with wondrous potential, as sites that reveal a grander order if only we take them as pathways toward a humbling actuality rather than as normative ends in themselves.

Anne Siebels Peterson
Brandon R. Peterson
University of Utah

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The Use of Aristotle's Biology in Nemesisius' *On Human Nature*

Teun Tieleman

Towards the end of the fourth century CE Nemesisius, bishop of Emesa in Syria, composed his treatise *On Human Nature* (Περὶ φύσεως ἀνθρώπου). The nature of the soul and its relation to the body are central to Nemesisius' treatment. In developing his argument, he draws not only on Christian authors but on a variety of pagan philosophers such as Plato, Aristotle, the Stoics and the great physician-cum-philosopher Galen of Pergamum. This paper examines Nemesisius' references to Aristotle's biology in particular, focusing on a few passages in the light of Aristotle's *Generation of Animals* and *History of Animals* as well as the doxographic tradition. The themes in question are: the status of the intellect, the scale of nature and the respective roles of the male and female in reproduction. Central questions are: Exactly which impact did Aristotle make on his thinking? Was it mediated or direct? Why does Nemesisius cite Aristotle and how? Long used as a source for earlier works now lost, Nemesisius' work may provide intriguing glimpses of the intellectual culture of his time. This paper is designed to contribute to this new approach to his work.

Introduction

In early Christian literature the author of *On Human Nature* (or *On the Nature of Man*, Περὶ φύσεως ἀνθρώπου) is something of a mystery guest. The majority of our principal MSS identify the author as the otherwise unknown Nemesisius, bishop of Emesa (present-day Homs in Syria). The untenable ascription to Gregory of Nyssa, which was in vogue for some time in the Middle Ages, clearly answered a felt need to provide with a better-known and authoritative author a work that impressed many through its learning, scope and execution and was translated into Latin, Georgian, Armenian, Syriac and Arabic. As it is, we have to extract our information about its author and context in so far as possible from the work itself. Nemesisius' references to ecclesiastics indicate that he must have written his work at the end of the fourth or perhaps the beginning of the fifth

century CE (say roughly between 380 and 410).¹ It is quite unlike anything else we have from this period: an anthropological handbook², a comprehensive account of the human being and his place in the cosmos.

Written from a Christian perspective, but addressing itself to pagans as well as Christians,³ it engages with Greek philosophy and medicine and selectively appropriates ideas from them. This is also illustrated by Nemesius' use of Aristotle, whom he does not treat as a misguided or indeed dangerous pagan but rather as an interlocutor.⁴ His account of human autonomy is based in large part on the earlier parts of Aristotle's *Nicomachean Ethics* book 3 (§§ 29-34). This and many other passages certainly point to considerable knowledge of philosophical literature and some level of formal education. The author's familiarity with Greek medicine and in particular the work of Galen is no less striking, although it is unnecessary to assume that he was a professional doctor: many educated persons took a keen interest in medicine and were knowledgeable about it.⁵ The pagan culture shown by our author has actually made his Christianity seem rather superficial and typical of a recent convert who, in Telfer's memorable words, 'had not had time to develop a taste for theological hatred.'⁶

¹ See Sharples and Van der Eijk, *Nemesius on the Nature of Man* (Liverpool: Liverpool University Press, 2008), 2.

² Some *mss.* add to the title λόγος κεφαλαιώδης, a 'summary account.'

³ § 42, p. 120.21-23; 2, p.38.7-9 Morani; cf. also n.29 and text thereto.

⁴ See Karamanolis, "Early Christian Philosophers on Aristotle", in *Brill's Companion to the Reception of Aristotle in Antiquity*, ed. A. Falcon (Leiden: Brill, 2016) for early Christian responses to Aristotle, with a brief discussion of Nemesius, whom Karamanolis sees as setting himself in dialogue with pagan philosophy and science including Aristotle. Nemesius' attitude towards Aristotle is similar to that taken earlier by Clement of Alexandria and Origen. Most early Christian responses to Aristotle, however, were dismissive, focusing criticism on a few recurrent themes such as his position on God and providence, the nature of the soul and happiness. An excellent introduction to Nemesius' project is provided by Motta, "Nemesius of Emesa", in *The Cambridge History of Philosophy in Late Antiquity*, ed. L.P. Gerson (Cambridge: Cambridge University Press, 2009), 509-519; cf. also Telfer, "The Birth of Christian Anthropology", *JTS* 13 (1962): 347-54. More comprehensive studies are Siclari, *L'antropologia di Nemesio di Emesa* (Padua: La Garangola, 1974), Verbeke and Moncho, eds., *Némésios d'Émèse, De natura hominis, traduction de Burgundio de Pise. Corpus Latinum commentariorum in Aristotelem Graecorum*, Suppl. I. (Leiden: Brill, 1975), Kallis, *Der Mensch im Kosmos: das Weltbild Nemesios' von Emesa*, Münsterische Beiträge zur Theologie 43 (Münster: Aschendorff, 1978), Morani, *Nemesio di Emesa. La natura dell' uomo* (Salerno: Grafiche Moriniello, 1982); cf. Wallace-Hadrill, *The Greek Patristic View of Nature* (Manchester: Manchester University Press, 1968).

⁵ Cf. Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 3. Cf. Boudon and Pouderon, eds., *Les Pères de l'Église face à la science médicale de leur temps* (Paris: Duchesne, 2005).

⁶ Telfer, *Cyril of Jerusalem and Nemesius of Emesa* (London: SCM Press, 1955), 210. Telfer discusses the suggestion made by the 17th century church historian Le Nain de Tillemont that our

Even if an idea like this must remain speculative, it is inspired by real features of the work as it has come down to us. Its title places it in a long tradition starting from Hippocrates' work of the same title and continued by a long line of philosophers writing on human nature from a psychological and biological perspective in particular.⁷ In both contexts we find him using Aristotelian doctrines and works. His use of Aristotle's *De anima* has already attracted some attention, not least because of its relevance to the author's ideas on the human soul in relation to the body, which the author uses as a model for the incarnation of Christ. In what follows, this paper will focus on other passages where we find more strictly biological (or zoological), including embryological and spermatological, ideas. In terms of the Aristotelian corpus this means that the paper will be addressed in particular to *Generation of Animals* and *History of Animals* and, to a lesser extent given its small role, *Part of Animals*⁸, the presence of which need not be doubted, although Nemesius gives us no titles, only Aristotle's name, and often not even his name but just an allusion or echo. The 1987 Teubner edition by Moreno Morani includes an apparatus of parallels with Aristotle (and other sources) that provides a good (though by no means the sole) basis for further study of Nemesius' engagement with Aristotle. The paper will not take it for granted that Nemesius' use of Aristotle is always unmediated or excludes other influences and sources.⁹ We have to reckon with

author is identical with the pagan governor named Nemesius who governed Cappadocia for a short while between 383 and 389 CE. This governor is on record as having engaged in philosophical discussions with Gregory of Nazianzus; see Gallay, ed., *Saint Grégoire de Nazianze. Lettres*, vol. 2 (Paris: Les Belles Lettres, 1967), 198-201; cf. also the poem dedicated to this Nemesius in the second book of his poetry, viz. nr. 1071 (= nr. VII of the poems to others) in *PG* vol. 37, pp. 1551-1554. It then becomes tempting to speculate that this Nemesius was converted and reworked an anthropological treatise he had written during his pagan period into a Christian work but did not succeed in turning it into a thoroughly Christian work. Nemesius' identity with the Roman governor of the same name must remain uncertain, however: see Telfer, *Cyril of Jerusalem and Nemesius of Emesa*, 208-210; cf. also Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 2.

⁷ Apart from Hippocrates, treatises with the title *Περὶ φύσεως ἀνθρώπου* are attested for Democritus, Diogenes of Apollonia, the sophist Prodicus, Strato the Peripatetic, Zeno the Stoic and, from late antiquity, Vindicianus; on this tradition see further Van der Eijk, "Galen on the Nature of Human Beings," in *Philosophical Themes in Galen*, eds. Adamson, Hansberger & Wilberding (London: BICS, 2014), 89-90 (although, *pace* Van der Eijk, I am not convinced that this tradition paid no attention to the human *psyche*: it was discussed in Zeno's treatise (alternatively entitled *On Desire*) and so it may have been in others, insofar as the defective evidence permits us to see.

⁸ On reflections of *Parts of Animals* see esp. *infra* § 4.

⁹ Cf. the scholarly debate on Aristotle in patristic literature: Festugière, "Aristote dans la littérature grecque chrétienne jusqu'à Théodoret", in Id., *L'idéal religieux des Grecs et l'Évangile* (Paris, 1932), 221-263, Runia, "Festugière Revisited. Aristotle in the Greek Patres", in *Vigiliae*

intermediate accounts and in particular the presence of doxographic literature. Since the 19th century it is an established fact that Nemesius reflects the so-called *Placita* tradition as reconstructed by Hermann Diels (1879) and, more recently, Mansfeld and Runia (1997), (2009), (2020). This is further borne out by the impressive number of parallels that have been found and presented by Nemesius' most recent editor, Morani.

Given our focus on Aristotle's biological works, it is worth pointing out that I do not intend to discuss Nemesius' rejection of Aristotle's hylomorphist theory of the soul as the form of the body (*De an.* 2.2), which, in line with later Peripatetic accounts, he interprets in terms of its quality (Aristotle had originally intended 'form' in the sense of substance). Given his Christian outlook Nemesius opted for a position close to the Platonist one, viz. that of the soul as a separate, incorporeal substance. At the same time, Nemesius explained the body-soul relationship by the Aristotelian and Galenic idea of the soul using the body as its instrument. In the case of Aristotle we shall see Nemesius making creative use of Aristotelian ideas from the biological works as well.¹⁰

1. The Intellect: Inside or Out

Our first case comes from the very beginning of the treatise (§ 1, pp.1.3-2.1 Morani). Having said that many eminent men have taken the view that man is constructed of an intellective soul and a body, Nemesius raises the issue of the relationship between the intellect and the soul: did the intellect make the soul intellective coming from outside, as one thing to another, or does the soul possess intellect of itself and from its own nature?

Christianae 43.1 (1989): 1-34; Karamanolis, 'Early Christian Philosophers on Aristotle'; cf. also, on Origen in particular, Scott, "Pseudo-Aristotle's *Historia Animalium* 9 in Origen," *The Harvard Theological Review* 85 (1992): 235-239, Limone, "Origen's Explicit References to Aristotle and the Peripateticians", *Vigiliae Christianae* 72.4 (2018): 390-404. Schrenk, ed., *Aristotle in Late Antiquity*, (Catholic University of America Press, 1994) has nothing on Nemesius and Lilla, 'Aristotelianism', in A. di Berardino *et alii*, eds., *Encyclopedia of Early Christianity*, 3 Vol. 1 (Downer Grove Il. IVP Academic, 2014): 228-235 very little. I have not been able to consult Streck, "Aristotelische und neuplatonische Elemente in der Anthropologie des Nemesius von Emesa", *Studia Patristica* 34 (2001): 559-564. On later ancient Peripatetic philosophy see Gottschalk, "Aristotelian philosophy in the Roman world", *ANRW II*, 36.2 (1987): 1079-1174, and Sharples, *Peripatetic Philosophy 200 BC to AD 200* (Cambridge: Cambridge University Press, 2010).

¹⁰ For Nemesius' argument on the substance of the soul see the long second chapter of *Nat. hom.* ch. 2 and on the union of body and soul the third, with the excellent comments by Sharples and Van der Eijk. In addition to their comments see on the idea of the body as the soul's instrument in Aristotle and Galen e.g. Arist. *EN* 1161a34, Gal. *UP* III. 2 K.

He then introduces a doxographic schema with Aristotle as one of the authorities who address the issue:

Some, Plotinus among them, have held the doctrine that the soul is one thing and the intellect another and maintain that man is composed of three things, body, soul and intellect. Apollinaris, who became bishop of Laodicea,¹¹ followed them. [...] But some did not set the intellect apart from the soul but believe that the intellect is the ruling part of its being.¹² Aristotle is of the opinion that while the potential intellect is part of the composition of man, intellect that is in actuality comes to us from outside, not as something that contributes to man's being and existence, but as contributing to the advancement of knowledge of natural things and of contemplation. Thus he affirms that few men and at any rate those who have philosophized possess intellect that is in actuality at all (1, pp.1.9-2.1 Morani; translation Sharples and Van der Eijk, modified).¹³

Nemesius goes on to note that Plato falls out of this classification because he appeared not to have considered the human being a composite of soul and body but rather a soul using the body as an instrument and turning away from it for the sake of cultivating its true self and the life of virtue (1, p.2.1-8 Morani). But all of them take the soul to be superior to the body (1, p.2.9-10). This broad consensus leads Nemesius to his view that we are intermediate creatures, sitting on the boundary between the perceptible and intelligible realms. This place within the order of things is one of autonomy and responsibility and so involves a moral appeal (p.2.15-p.3.3 Morani).¹⁴

Among those who focus on the relation between the soul and the intellect, Aristotle represents a compromise position between those who separate the two (a group including Plotinus and Apollinaris) and those who see the intellect as a function of the

¹¹ Apollinaris (315-392 CE), bishop of Laodicea in Syria, held that the intellect or spirit is divine and was condemned accordingly: see further Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 35 n.185.

¹² As Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 36 n.186 submit, the Stoics may be meant, in view of the recorded doctrine and the term 'ruling part': cf. ps.Plut. *Plac.* 4.21.1 (*SVF* 2.836). Yet there is a more precise parallel at Stob. *Ecl.* I 49 [41] 7 Wachsmuth, saying that Parmenides, Empedocles and Democritus take the *soul and the intellect* to be the same (*italics mine*); see further *infra*, n. 21 with text thereto.

¹³ ὧν ἐστὶ καὶ Πλωτῖνος, ἄλλην εἶναι τὴν ψυχὴν καὶ ἄλλον τὸν νοῦν δογματίσαντες, ἐκ τριῶν τὸν ἄνθρωπον συνεστάναι βούλονται, σώματος καὶ ψυχῆς καὶ νοῦ. οἷς ἠκολούθησε καὶ Ἀπολινάριος ὁ τῆς Λαοδικείας γενόμενος ἐπίσκοπος· [...] τινὲς δὲ οὐ διέστειλαν ἀπὸ τῆς ψυχῆς τὸν νοῦν, ἀλλὰ τῆς οὐσίας αὐτῆς ἡγεμονικὸν εἶναι τὸ νοερὸν ἡγοῦνται. Ἀριστοτέλης δὲ τὸν μὲν δυνάμει νοῦν συγκατεσκευάσθαι τῷ ἄνθρωπῳ, τὸν δὲ ἐνεργείᾳ θύραθεν ἡμῖν ἐπεισιέναι δοξάζει, οὐκ εἰς τὸ εἶναι καὶ τὴν ὑπαρξιν τοῦ ἄνθρωπου συντελοῦντα, ἀλλ' εἰς προκοπὴν τῆς τῶν φυσικῶν γνώσεως καὶ θεωρίας συμβαλλόμενον· κομιδῇ γοῦν ὀλίγους τῶν ἀνθρώπων καὶ μόνους τοὺς φιλοσοφῆσαντας τὸν ἐνεργείᾳ νοῦν ἔχειν διαβεβαιοῦται.

¹⁴ See further *infra*, § 2.

soul itself.¹⁵ Aristotle differentiates between a potential and internal intellect on the one hand and an active and external intellect on the other, reconciling the two opposing camps in a sense. Further, Nemesius combines here statements from various works into one Aristotelian position. The phrase about the intellect entering from outside echoes *Generation of Animals* 2.3: 736b 24.¹⁶ But the distinction between the active and the potential intellect comes from *On the Soul* 3.5: 430a10-25, i.e. the seminal but notoriously controversial passage on the active intellect. For our purposes it is not necessary to enter into the long-standing problem of its interpretation (which goes back to Aristotle's pupil Theophrastus). It suffices to note that Nemesius uses this distinction to make a point about how to lead our lives: the active intellect is not necessary for human existence as such.¹⁷ But it makes progress in knowledge of the physical world and contemplation thereof possible. Nemesius' phrasing on this last point is Aristotelian too, echoing the final book of the *Nicomachean Ethics* with its praise of the theoretical intellect contemplating eternal truths as the crowning human and indeed godlike activity (*EN* 10.7-9). Nemesius then links the active intellect to the theoretical intellect and so arrives at his statement that only a few persons who have philosophized possess the active intellect. This, clearly, is not what Aristotle says or implies at *De an.* 3.5 or any other passages where he speaks about the intellect (e.g. *ibid.* 2.2, 413b24-27; *GA* 2.3, 736b29-39). Nemesius gives this particular twist to Aristotle's position to prepare for his call for a philosophical life based on a realization of the human being's place in the cosmos, as we saw him also doing with respect to Plato.

It may have been Nemesius himself who synthesized Aristotle's ideas on the intellect in this particular way. This is also suggested by the presence in this passage of relatively recent authorities such as Plotinus and Apollinaris. But it is worth noting that the issue as such appears to have been traditional.¹⁸ One doxographic source associates

¹⁵ See *infra*, n. 34.

¹⁶ For the intellect from outside see also *GA* 2.6: 744b22; *Resp.* 472a23.

¹⁷ Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 36 n.188 comment that it is far from clear that Aristotle would deny that the active intellect makes man's "being and existence" complete. But συντελοῦντα is better translated as 'contribute to': Nemesius says it is not necessary for living or existing as such, relating the active intellect to philosophical activity, which is un-Aristotelian. That the study of nature is a crowning kind of activity is again Aristotelian.

¹⁸ On the relation of the passage from Nemesius (p. 1.3-2.1) and the *Placita* cf. also Mansfeld, "Doxography and Dialectic. The *Sitz im Leben* of the *Placita*", *ANRW* II, 36.4 (1990): 3092n.138, who suggests that Nemesius' doxographic source may have included a chapter on the origin of

the intellect entering from outside with no less than five authorities but, strikingly, not Aristotle: “Pythagoras Anaxagoras Plato Xenocrates Cleanthes¹⁹ [hold] that mind (νοῦς) enters into the body from outside (θύραθεν)”: Stob. *Ecl. Phys.* I 48.7 (περὶ νοῦ), p. 317.15–16.1.²⁰ In addition, another lemma from Stobaeus (*Ecl.* 1 49 [41] 7 Wachsmuth) is clearly concerned with the relation between the soul and the intellect, saying that Parmenides, Empedocles and Democritus consider them to be the same.²¹

In sum, Nemesius uses traditional issues and positions but enriches this doxographic material with additions, tweaks and updates of his own. In this particular case we can also see how and why he does so, namely with a view to driving home a few general and fundamental points he wishes to make about our place in the cosmos and the virtuous life that should follow from it. The classification and discussion of different options serve the purpose of creating a broad intellectual basis for this project rather than engaging in refutation and polemics; hence his reconciliatory attitude towards Aristotle and other pagan authorities. It also suits his aim of persuading the unconverted among his readership.²²

the intellect; cf. also Mansfeld and Runia, *Aëtiana. The Method and Intellectual Context of a Doxographer. Volume One: The Sources* (Leiden: Brill, 1997), 293; for more evidence concerning this issue see Mansfeld and Runia, *Aëtiana V. An Edition of the Reconstructed text of the Placita with a Commentary and a Collection of Related Texts*. 4 vols. *Philosophia antiqua* 153 (Leiden: Brill, 2020): 1528-1529, 1532-1536.

¹⁹ *SVF* 1 Cleanthes 523 (cf. Von Arnim’s note: qui hoc de Cleanthe dixit philosophum male intellexisse videtur)

²⁰ Printed by Diels in his reconstruction of the Aëtian *Placita* as 4.5.11 in Diels, *Doxographi Graeci*. (Berlin: Reimer, De Gruyter and Cambridge University Press, 1879 with later repr.), 392, i.e. in the chapter on the seat of the soul’s ruling part (τὸ ἡγεμονικόν). This is certainly incorrect: see Mansfeld and Runia (2020), *Aëtiana V. An Edition of the Reconstructed text of the Placita with a Commentary and a Collection of Related Texts*, 1526-1527 who present the lemmas on the intellect from Stobaeus and a few other witnesses in a separate chapter of their reconstructed Aëtius (4.7a). On the question how and why Cleanthes the Stoic and the others were saddled with Aristotle’s idea see further Tieleman, “The Spirit of Stoicism,” in *The Holy Spirit, Inspiration, and the Cultures of Antiquity. Multidisciplinary Perspectives*, eds. J. Frey and J.R. Levison (Berlin: De Gruyter, 2014), 44-45 n.18.

²¹ Printed by Diels as ‘Aëtius’ 4.5.12 and by Mansfeld and Runia, *Aëtiana V. An Edition of the Reconstructed text of the Placita with a Commentary and a Collection of Related Texts*, as 4.7a2 (see prev. n.).

²² See *supra*, n.3 with text thereto.

2. *The Scale of Nature*

In the introduction (§ 1) Nemesius is concerned to determine the place of human beings in the greater whole of the cosmos. Here he introduces his view of humans as intermediate beings: we have things in common with non-rational animals and even with inanimate things but at the same time we participate in the thinking of rational beings (pp. 2.13-15, 24-3.3 Morani). This, he explains, is but an instantiation of a wider principle, viz. the Creator links together the different natures through small differences, so that the creation displays unity and coherence (p.3.3-5, 25 Morani). Here he echoes Aristotle's conviction that Nature does not make jumps, in particular as expounded at *History of Animals* 8.1: 588b4-22 (cf. *ibid.* 5.15: 548a5).²³ Nemesius, then, enriches his account by transferring an Aristotelian idea about how nature works to the Creator.²⁴ He fleshes this out by presenting a scale of nature, moving from stones to magnetic stones, which display the power of attracting iron as if they wish to make it their food (p.3.17-22 Morani).²⁵

²³ Nature proceeds little by little from things lifeless to animal life in such a way that it is impossible to determine the exact line of demarcation, nor on which side thereof an intermediate form should lie. Thus, next after lifeless things comes the plant, and of plants one will differ from another as to its amount of apparent vitality; and, in a word, the whole genus of plants, whilst it is devoid of life as compared with an animal, is endowed with life as compared with other corporeal entities. Indeed [...] there is observed in plants a continuous scale of ascent towards the animal. So in the sea there are certain objects concerning which one would be at a loss to determine whether they be animal or vegetable. For instance, certain of these objects are fairly rooted, and in several cases perish if detached; thus the pinna is rooted to a particular spot, and the razor-shell cannot survive withdrawal from its burrow. Indeed, broadly speaking, the entire genus of testaceans have a resemblance to vegetables, if they be contrasted with such animals as are capable of progression. In regard to sensibility, some animals give no indication whatsoever of it, whilst other indicate it but indistinctly. Further the substance of some of these intermediate creatures is flesh-like, as in the case of the so-called ascidians and the sea-anemones; but the sponge is in every respect like a vegetable. And so throughout the entire animal scale there is a graduated differentiation in amount of vitality and in capacity for motion (transl. d'Arcy Thompson).

²⁴ The appellation used by Nemesius, literally 'craftsman' (δημιουργός, p.3, 3, 5 *et passim*) goes back, of course, to Plato's *Timaeus*. Its creation story was often interpreted literally, i.e. as an actual one-time event rather than in the sense of a *creatio continua*, in line with the Christian account from *Genesis* 1. Aristotle, by contrast, took the cosmos to be eternal and so without a beginning: see e.g. *Cael.* I.3:270a12-270b31; cf. ps. Plut. *Plac.* 2.4.4, 2.5.1.

²⁵ Here Nemesius may be inspired by Galenic passages on the power of the magnetic stone such as *Loc. Aff.* VIII. 66 K. *Ther. Pis.* XIV. 225, SMT XI. 612 K. Yet Galen merely illustrates the attractive power of organs in living beings by reference to that of the magnetic stone. But cf. Alexander of Aphrodisias, *Quaestio* 2.23, who says that it is the iron which *desires for* something in the magnet, thus reversing the viewpoint taken by Nemesius.

Since the nutritive power is that characterizing plants, Nemesius starts discussing the difference between them and animals:

Then again, subsequently, the Creator, as He moved on from plants to animals, did not at once proceed to a nature that changes its place and is sensitive but took care to proceed gradually and carefully in this direction. He constructed the bivalves and the corals like sensitive trees, for He rooted them in the sea like plants and put shells around them like wood and made them stationary like plants; but He endowed them with the sense of touch, the sense common to all animals, so that they are associated with plants by having roots and being stationary. The sponge at any rate, as Aristotle tells us, although growing on rocks, both contracts and defends itself when it senses something approaching. For such reasons the wise men of old were accustomed to call all such things zoophytes.²⁶ Again he linked to bivalves and the like the generation of animals that change their place but are incapable of going far, but move to and from the same place. Most of the animals with shells and worms (lit. earth's guts)²⁷ are like this (1, pp. 3.23-4.9 Morani; transl. Sharples and Van der Eijk).²⁸

In this passage Nemesius uses the biological expertise of Aristotle to drive home his point about the structure of Creation. Apparently, he considers it perfectly legitimate to cite Aristotle as a scientific authority within a Christian framework. This is also a matter of rhetorical strategy, for it will only lend more force to his message in the eyes of the non-Christians to whom he also addresses himself: they are not persuaded by biblical authority but, as he notes, need to be approached with arguments.²⁹ The created world displays a layered structure without big gaps between the species of living beings. Thus, sponges are plantlike in that they lack the faculty of locomotion, being attached to rocks, but are like other animals in being sentient and resistant to threats. This point reflects a specific passage on sponges (and similarly non-mobile creatures) from the Aristotelian History of Animals, 5,16: 548a21-549a12 and especially 548b10-15 (cf. also ch. 15 on testaceans).

²⁶ This is inaccurate. As Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 39 n.202 following Telfer, *Cyril of Jerusalem and Nemesius of Emesa*, 233 n.5 point out, the term 'zoophyte' is not found before the second century CE.

²⁷ Cf. Arist. *HA* 6.16: 570a15; cf. *GA* 3.11:762b26.

²⁸ εἴτα πάλιν ἐξῆς ἀπὸ τῶν φυτῶν ἐπὶ τὰ ζῷα μετιών, οὐκ ἀθρόως ἐπὶ τὴν μεταβατικὴν καὶ αἰσθητικὴν ὥρμησε φύσιν. ἀλλ' ἐκ τοῦ κατ' ὀλίγον ἐπὶ ταύτην ἐμμελῶς προῆλθεν· τὰς γὰρ πίννας καὶ τὰς ἀκαλήφας ὥσπερ αἰσθητικὰ δένδρα κατεσκεύασεν· ἐρρίζωσε μὲν γὰρ αὐτὰς ἐν τῇ θαλάσῃ δίκην φυτῶν καὶ ὥσπερ ξύλα τὰ ὄστρακα περιέθηκε καὶ ἔστησεν ὡς φυτά, αἰσθησιν δὲ αὐταῖς ἐνέδωκε τὴν ἀπτικήν, τὴν κοινήν πάντων ζῶων αἴσθησιν, ὡς κοινωνεῖν τοῖς μὲν φυτοῖς κατὰ τὸ ἐρριζῶσθαι καὶ ἐστάναι, τοῖς δὲ ζῷοις κατὰ τὴν ἀφήν· τὸν γοῦν σπόγγον, καίτοι προσπεφυκότα ταῖς πέτραις, καὶ συστέλλεσθαι καὶ ἀμύνεσθαι, ὅταν προσιόντος αἰσθηταί τινος, Ἀριστοτέλης ἱστόρησεν. διὸ τὰ τοιαῦτα πάντα ζῷόφυτα καλεῖν ἔθος ἔχουσιν οἱ παλαιοὶ τῶν σοφῶν. πάλιν δὲ ταῖς πίνναις καὶ τοῖς τοιοῦτοις συνῆψε τὴν τῶν μεταβατικῶν μὲν ζῶων γένεσιν, μακρὰν δὲ προελθεῖν μὴ δυναμένων, ἀλλ' αὐτόθεν αὐτοῦ που κινουμένων· τοιαῦτα δὲ ἐστὶ τὰ πλείστα τῶν ὀστρακοδέρμων καὶ τὰ καλούμενα γῆς ἔντερα.

²⁹ See 2, 38.7-9, 42, 120.21-23 Morani.

Here Aristotle argues that sponges are sensitive, being aware of and resisting attempts to pluck them, or clinging more strongly to their rocks when the weather turns windy and boisterous (cf. *ibid.* 549a8: sponges are agreed to be sentient). Here he does not say that they are plantlike, but he does so at 8.1: 588b20 (sponges, being intermediate creatures, are quite similar to plants: see above n.23).³⁰ What Nemesius omits is that Aristotle describes the behavior of sponges with a certain proviso: he makes it clear that he reports what he has been told by others (sponge-divers?) and that in spite of the apparent reliability of the report the people of Torone doubt its truth. That sponges and bivalves have an intermediate status between plants and animals is left implicit in the Aristotelian text. In sum, Nemesius brings together different elements from different parts of the Aristotelian text and adds touches of his own. Other sources of inspiration may be involved as well, in addition, to be sure, to Nemesius' own stamp: as Sharples and Van der Eijk correctly note, the idea that humans are also related to inanimate nature by their having certain insentient body parts such as bones (1, p.3.7-11) can be paralleled not from Aristotle but from Stoic accounts of the scale of nature, with its cohesive, physical and psychical levels corresponding to different degrees of subtlety of the all-pervasive *pneuma*.³¹

Galen, *On the Doctrines of Hippocrates and Plato* 5.6.38 p. 334.4-8 De Lacy (F 33 E.-K.) presents, on behalf of the Stoic Posidonius, a similar scale in terms of the Platonic tripartite psychology. Here certain non-mobile animals that are governed by desire alone are said to grow attached, like plants, to rocks.³² Nemesius uses this work of Galen's elsewhere and so may have also been influenced by this passage when he wrote on the scale of nature himself. But in fact there are more and closer points of contact between Nemesius' account and *History of Animals* where the scale of nature is

³⁰ Pace Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 39 n. 201, who say that Aristotle 8.1: 588b20 takes a 'different view' on the status of sponges as compared to what he says in book 5. In the context he makes it clear that he sees them as intermediate in line with the earlier passage.

³¹ See the evidence collected as *SVF* 2.439-462. *SVF* 2.458, cited by Sharples and Van der Eijk, *Nemesius on the Nature of Man*, n.196, is a particularly clear passage from Philo of Alexandria, *Allegory of the Laws* 2.22-23.

³² Jaeger, *Nemesius von Emesa*, (Berlin: Weidmann, 1914), 104 n.2 and Telfer, *Cyril of Jerusalem and Nemesius of Emesa*, 233 n.3 believe that this Galenic passage lies behind Nemesius scale of nature and in particular the observation on stationary animals. Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 39 n. 202 reject this on the grounds that the tripartition of the soul is lacking from Nemesius.

concerned. When he turns to the soul in § 2 (pp.36.13-37.20 Morani) he returns to the theme of graduality, pointing out that animals display a ‘natural’ (so not strictly rational) intelligence and skills and arts analogous to ours, echoing the same first chapter of book 8 of Aristotle’s work that lies behind the passage from § 1 we have just quoted (in particular Aristotle’s observations at HA 8.1: 588a22-588b1).

3. Women, Semen and Blood

In Nemesius’ account of the generative and seminal faculty or power (§ 25) we find the following passage:

Women have all the same parts as men, but inside not outside. Aristotle and Democritus maintain that female sperm contributes nothing to the generation of offspring. For they maintain that what is emitted by women is sweat of the relevant part rather than seed. But Galen finding fault with Aristotle says women have seed and the mixture of both seeds produces the embryo; that is indeed why intercourse is called mixture. Yet they do not have perfect seed like a man’s but it is still uncooked and rather watery. Being like this the woman’s seed becomes nourishment of that of the man. From it a portion of the fetal membrane round the horns³³ of the womb is solidified and also the so-called sausage-like membrane which is a receptacle for the residues from the embryo (transl. Sharples and Van der Eijk, slightly modified) (25, pp. 86.19-87.7 Morani).³⁴

This is largely based on Galen, *On Semen* and the relevant part of *On the Functionality of Parts* (book 14, chs. 9-14). Here however we do not just get a summary or conflation of Galenic passages but a little doxography which invites comparison with the *Placita* tradition and in particular what is found in one of its extant witnesses, ps.Plutarch, *Plac.* at 5.5, the chapter entitled “Whether women too emit semen” (εἰ καὶ αἱ θήλειαι προΐενται σπέρμα, echoing Arist. *GA* 1.19: 728a32). Its first lemma gives the affirmative view, held

³³ These “horns” are in Galen probably to be identified with the Fallopian tubes but some caution is needed since their description may be based on animal rather than human anatomy: see *On the Dissection of the Uterus* 3.1-3, p. 38.2 Nickel (II. 890 K.) with Nickels note *ad loc.* *On Semen* 2.1.5, p. 144.14-15 De Lacy (IV. 594 K.), *On the Functionality of Parts* 14.11, vol. 2, p.323.18-22 Helmreich. See further Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 156 n. 794.

³⁴ Ἀριστοτέλης μὲν οὖν καὶ Δημόκριτος οὐδὲν βούλονται συντελεῖν τὸ τῆς γυναικὸς σπέρμα πρὸς γένεσιν τέκνων· τὸ γὰρ προιέμενον ἐκ τῶν γυναικῶν ἰδρῶτα τοῦ μορίου μᾶλλον ἢ γονὴν εἶναι βούλονται. Γαληνὸς δὲ καταγινώσκων Ἀριστοτέλους λέγει σπερμαίνειν μὲν τὰς γυναῖκας καὶ τὴν μῖξιν ἀμφοτέρων τῶν σπερμάτων ποιεῖν τὸ κύημα· διὸ καὶ τὴν συνουσίαν μῖξιν λέγεσθαι· οὐ μὴν τελείαν γονὴν ὡς τὴν τοῦ ἀνδρός, ἀλλ’ ἔτι ἄπεπτον καὶ ὑγροτέραν· τοιαύτη δὲ οὕσα τῆς γυναικὸς ἢ γονὴ τροφὴ γίνεται τῆς τοῦ ἀνδρός. ἐξ αὐτῆς δὲ καὶ μέρος τι τοῦ χορίου τοῦ περὶ τὰς κεραίας τῆς μήτρας συμπήγνυται καὶ ὁ καλούμενος ἀλαντοειδὴς δοχεῖον ὣν τῶν περιττωμάτων τοῦ ἐμβρύου.

by Democritus alongside Pythagoras and Epicurus, and the second Aristotles' view³⁵, denying semen to women. The third and last lemma gives the view of the Presocratic thinker Hippon, which constitutes a compromise between the first and the second—a schema fairly common in the *Placita*: women do have semen but it contributes nothing to procreation.³⁶

When we compare this chapter in the *Placita* with the corresponding passage in Nemesius, we find that Nemesius aligns Democritus with Aristotle as denying that there is female semen, which is the view opposite to the one given to Democritus in the *Placita*.³⁷ Although the precise relation of Nemesius to the *Placita* tradition is no longer ascertainable³⁸, there can be no doubt that he made use of it and he may be taken to reflect it here too: the characterization of the liquid secreted by females as a kind of sweat can also be paralleled from the *Placita* chapter.³⁹ That he includes Democritus in the camp of

³⁵ On Aristotle's presence in the *Placita* see Mansfeld, "Aristotle in the Aëtian *Placita*," in Falcon, ed., *Brill's Companion to the Reception of Aristotle in Antiquity*, (Leiden: Brill, 2016), 299-318.

³⁶ The way of arranging the doctrinal material that is typical of the *Placita* tradition is by division or classification, i.e. the method of diaeresis, which goes back to Aristotle and Plato. Within the diaeretic schemes one comes across compromise positions, i.e. tenets combining elements from different options. On diaeresis see further Mansfeld and Runia, *Aëtiana Vol. II. The Method and Intellectual Context of a Doxographer. The Compendium, Part One* (Leiden: Brill, 2009), 3-16 (= Part One, 1: 'Strategies of presentation'). Christian authors could use such schemes to demonstrate the prevalent disagreement among pagans (thereby following in the footsteps of the earlier Sceptics) or put them to a more constructive use such as Nemesius does here, viz. that of ordering a discussion by setting out the available options and choose one of them as the true or most preferable one. Nemesius lays down the correct Christian position in the soul (§ 2, p.37-38.10 Morani) on the basis of a diaeresis of definitions of the soul demonstrating the disagreement (διαφωνεῖται) 'among all ancients': § 2, 16.12-17.38.9 Morani, with pp. 16.12-17.15 corresponding to ps.Plut. *Plac.* 4.2-3. See Mansfeld and Runia, *Aëtiana. The Method and Intellectual Context of a Doxographer. Volume One: The Sources*, 207-208; Mansfeld, "Doxography and Dialectic. The *Sitz im Leben* of the *Placita*", 3076-3077. How far the diaeretic mode of presentation involved the distortion of the original positions is another matter.

³⁷ As noted by Diels, *Doxographi Graeci*, ad Democr. 68 A 143 DK.

³⁸ Diels, *Doxographi Graeci*, 49-50 even took Nemesius to have drawn directly on the lost source Aëtius, a source, then, fuller than extant specimens such as ps.Plutarch's *Placita*.

³⁹ (1) Πυθαγόρας Ἐπίκουρος Δημόκριτος καὶ τὸ θῆλυ προῖεσθαι σπέρμα· ἔχει γὰρ παραστάτας ἀπεστραμμένους· διὰ τοῦτο καὶ ὄρεξιν ἔχει περὶ τὰς χρήσεις. (2) Ἀριστοτέλης καὶ Ζήνων ὅλην μὲν ὑγρὰν προῖεσθαι οἰοῦναι ἀπὸ τῆς συγγυμνασίας ἰδρωτάς, οὐ μὴν σπέρμα πεπτικόν. (3) Ἴππων προῖεσθαι μὲν σπέρμα τὰς θηλείας οὐχ ἥκιστα τῶν ἀρρένων, μὴ μέντοι εἰς ζωογονίαν τοῦτο συμβάλλεσθαι διὰ τὸ ἐκτὸς πίπτειν τῆς ὑστέρας· ὅθεν ἐνίας προῖεσθαι πολλάκις δίχα τῶν ἀνδρῶν σπέρμα, καὶ μάλιστα τὰς χηρευούσας. καὶ εἶναι τὰ μὲν ὅσα παρὰ τοῦ ἄρρενος τὰς δὲ σάρκας παρὰ τῆς θηλείας.

those who deny that women have semen may be due to a simple confusion of the name-labels belonging with the options.⁴⁰

The passage in Nemesius, then, shows him using, in an independent and creative way, a relevant chapter from the *Placita* tradition: the position labelled here with the name of the rather obscure old-timer Hippo he replaces with that of a more recent authority, Galen, who had corrected Aristotle, thus vindicating the general thesis, with which Nemesius opens this section.⁴¹ Why he addresses this subject in the first place is not difficult to see. The question of the female contribution to conception had become a standard issue after Aristotle had rejected earlier Hippocratic accounts according to which both parents contribute to their offspring on an equal basis. Aristotle had devoted a separate chapter of *Generation of Animals* to showing that the female contributes no semen during coition (1.20; cf. also the previous chapter and *GA* 1.19.727a28-29, echoed by Nemesius).⁴² Thus it became one of the issues included in the physiological part of the *Placita*. The mistake with Democritus' name may suggest that Nemesius is working on the basis of his memory. But his use of the *Placita* section does not exclude his using the relevant statement from Aristotle's original exposition also. He plays off Aristotle against Galen, another authority, whose work he knows well and whose position he presents not only as correct but well-argued.

Here it becomes clear that Galen indicated the superiority of the male semen over the female one so that he really represents a kind of compromise position: women do contribute seed of their own but it plays a subordinate role. Seen in this light, Galen's view functions in a way similar to the position ascribed to Hippon. Further, Nemesius does not produce any scriptural or at any rate Christian support for the thesis of the

⁴⁰ Mansfeld and Runia, *Aëtiana. The Method and Intellectual Context of a Doxographer. Volume One: The Sources*, 207–208, too suggest that Nemesius may have confused the name-labels concerned.

⁴¹ That female animals have semen and testicles is established by Galen, against Aristotle and the medical scientist Athenaeus of Attaleia, in his *On Semen (Sem.)* book 2, ch. 1, pp.144.4-160.23 De Lacy (IV. 593-610 Kühn) and ch. 4, pp.172.1-178.15 (IV. 620-625 Kühn). The point cited by Nemesius about female semen being wetter than and inferior to male semen is made by Galen at *Sem.* 2.4.24, pp.176.13-14 De Lacy (IV. 624 Kühn). Cf. also the refutation of Aristotle's theory at Galen, *Sem.* 1.5.8-28, pp.80.19-84.14 De Lacy (IV. 529–33 Kühn)

⁴² For a recent rereading of this passage and the interpretation of the male role in Aristotle's reproductive system more generally, see Connell, *Aristotle on Female Animals: A Study of the Generation of Animals* (Cambridge: Cambridge University Press, 2016), part 3. For the Hippocratic view that women have semen of their own see Hp. *De nat. pueri* 1: VII. 486.1-3 L. cf. *Genit.* 6 (VII.478 L.)

(internal) anatomical correspondence between the two sexes. In fact, the female emission of semen is mentioned in Hebrews 11:11, which itself appears to reflect an insight from Greek embryology.⁴³ It may be noted that the first half of Methodius of Olympus' dialogue *Symposium* (usually dated to c. 290 CE) shows the female interlocutors attributing an active, formative role to the mother (it is not the father but God who in a later stage provides the soul to the embryo), anchoring their disquisitions in medical theorems on the substance and origin of semen—issues also familiar from the *Placita* tradition (see ps. Plut. *Plac.* 5.3, 4).⁴⁴

Nemesius pays on the whole little attention to the difference between man and woman. His view that they have corresponding anatomies should not be taken to imply that he sees them as in principle equal. His point about the superiority of male seed, which he takes over from Galen, immediately suppresses such a reading. To explain the relation of the soul to its bodily instruments he uses the example of the sexual act, giving the woman the part of the 'matter', i.e. the passive recipient of the action in question, in a way that recalls Aristotelian passages (5, p.55.5-6 Morani; cf. Arist. *GA* 1.2: 716a6-8, 1.19: 727b31-33, 1.20: 729a11 and elsewhere).⁴⁵ Likewise women appear in an example in his discussion of moral responsibility (40, pp. 115.27-116.2 Morani). Here Nemesius quotes Matthew 5:28, Jesus' statement that desiring another man's wife amounts to committing adultery "in one's heart." This is meant to illustrate the idea that moral choice preceding action (in this case intercourse) is already liable to moral judgement. But once again the female part is an entirely passive one and the perspective is male.

It may be instructive to compare another passage concerned with the body and semen from § 4, the section dedicated to the body:

⁴³ Van der Horst, "Sarah's Seminal Emission: Hebrews 11:11 in the Light of Ancient Embryology", in Van der Horst, *Hellenism – Judaism – Christianity: Essays on Their Interaction* (Kampen: Kok Pharos, 1994), 203-224. References in the New Testament to other aspects of human procreation are considered against the backdrop of ancient Greek medicine by Weissenrieder, "What does σωθήσεται δὲ διὰ τεκνογονίας 'to be saved by childbearing' mean (1 Timothy 2:15)? Insights from Ancient Medical and Philosophical Texts", *Early Christianity* 5 (3) (2014): 313-336 and Pope, "Luke's Seminal Annunciation: An Embryological Reading of Mary's Conception", *JBL* 138,4 (2019): 791-807.

⁴⁴ For a full discussion see Laval Norman, "Becoming Female: Marrowy Semen and the Formative Mother in Methodius of Olympus' *Symposium*," *Journal of Early Christian Studies* 27.2 (2019): 185-209.

⁴⁵ On active and passive factors in Aristotle's account of the generation of living substances see Freeland, "Aristotle on Bodies, Matter and Potentiality", in A. Gotthelf & J.G. Lennox, eds. *Philosophical Issues in Aristotle's Biology* (Cambridge: Cambridge University Press, 1987): 399-404.

Aristotle holds that the bodies of animals come to be directly from the blood alone; for he thinks it is directly from this that all the parts of the animal are nourished and grow, and sperm has its origin in blood (4, p. 45.7-10 Morani).⁴⁶

At the beginning of this section Nemesius had already introduced the four humors (blood, phlegm, black and yellow bile) as the constituents of the bodies of animals that have blood (there is only one more fundamental level, viz. that of the physical elements). This was the Hippocratic view, especially as influentially promoted by Galen on the basis of the Hippocratic *On Human Nature*, chs. 1-15, i.e. the part attributed by Galen to Hippocrates himself (*HNH* Prooem. 7.15-9.11 Mewaldt [XV. 9-13 K.]). Having given Aristotle's position in the above quotation Nemesius argues that it is difficult to explain body parts so different in structure as flesh and bone⁴⁷ on the assumption of one humor only. The Hippocratic view, then, is to be preferred, or so it is implied. But somewhat surprisingly he goes on to point out that the four humors are often found in the blood⁴⁸, concluding that "the gentlemen appear somehow to be in agreement with one another" (p.45.17-18 Morani). We have seen other examples of Nemesius striking a compromise where Aristotle was involved. Here too then he is not dismissed but reconciled to the strictly speaking preferable position.

Aristotle's emphasis upon the blood as the basic material of generation is well attested. Nemesius may be thinking of specific passages.⁴⁹ But the confrontation between Aristotle and Hippocrates staged here recalls discussions from works of Galen with which Nemesius was familiar.⁵⁰ But Galen himself took part in traditional issues as laid out in

⁴⁶ Ἀριστοτέλης δὲ ἐξ αἵματος μόνου βούλεται γίνεσθαι τὰ σώματα τῶν ζώων· ἐκ τούτου γὰρ καὶ τρέφεσθαι προσεχῶς καὶ αὔξεσθαι πάντα τὰ τοῦ ζώου μόρια, καὶ τὸ σπέρμα δὲ τὴν γένεσιν ἐξ αἵματος ἔχειν. Omitting with D προσεχῶς before ἐξ αἵματος. On the central role of the blood in Aristotle's theory see Freeland, "Aristotle on Bodies, Matter and Potentiality," 398-404.

⁴⁷ Nemesius seems to use the order elements-humours-homoeomerous (or uniform) parts (e.g. flesh, bone)-organs. This reflects Galen's position (which Galen himself traces back to Hippocrates): Gal. *Hipp. Elem.* 10.3-6, p. 136.18-140.13 De Lacy (I. 492-493 K.), *PHP* 8.4.20-21, p. 502.16-25 De Lacy (V. 676 K.), *HNH* I.19, p.32.14-25, I.38, p.48.10-25 Mewaldt. On the Galenic background see further Skard, "Nemesiosstudien: 3. Nemesios und die Elementenlehre des Galenos," *Symbolae Osloenses* 18 (1938): 31-41 with Sharples and Van der Eijk, *Nemesius on the Nature of Man*, 87 n.417.

⁴⁸ I.e. visible blood or blood in the ordinary sense of the word really is a compound of the four humours including blood in a stricter sense: this is Galen's view; see Gal. *PHP* 8.4.4. p. 498.26-28 De Lacy (V. 672 K.), *Hipp. Elem.* 11.1, p.140.15-18 De Lacy (I. 494 K.), 11.16-19, pp. 144.16-146.7 De Lacy (I. 498 K.), 19.9, p.150.15-16 De Lacy (I. 503 K.); *At. Bil.* 4, p.78.24-29 De Boer (V. 119 K.); *Plen.* 10.19-22, p. 160.9-23 Otte (VII. 566-567 K.).

⁴⁹ Arist. *GA* 1.19: 726b2-5, 726b9-10, 2.4: 740a21; *PA* 2.3: 650a34-b13; 3.5: 668a9-13.

⁵⁰ Gal. *Hipp. Elem.* 14.1, p. 154.11-20 De Lacy.

the *Placita* tradition, too.⁵¹ At any rate, the question of the basic constituents of the body or that of the composition of the semen can again be paralleled from the *Placita* tradition.⁵²

4. *Leftovers: Parts of Animals and Some Other Issues*

Another of the biological or zoological works needs to be considered here: *On the Parts of Animals*, one of the favorite works of another source used by Nemesius, Galen. A few putative references to, or reflections of, this work are found in the chapters devoted to the senses (chs. 7-11).⁵³ The view expressed by Aristotle, *On the Parts of Animals* 2.10: 656b26-31 that vision sees along a straight line whereas smell and hearing perceive from all directions (though without Aristotle's reference to the corresponding positions of the sense organs in the head of animals) is found at the beginning of the chapter on taste (ch. 9, p. p.66.1-5 Morani; cf. 7, p.59.18-19 M. on vision going in a straight line).⁵⁴ Just below, at p.66.6 M., Morani detects an echo of *HA* 1.11: 492b27, saying that the tongue is the organ perceiving flavors. Nemesius says that taste is concerned with flavors. This hardly counts as a significant parallel, but p.66.10-12 M. lists the different 'taste-qualities,' such as sweetness, bitterness and several others, in a way that appears to reflect *De an.* 2.10: 422b10-15, which enhances the Aristotelian impression conveyed by this passage as a whole. The very combination of Aristotelian treatises echoed here may suggest that Nemesius is working here from memory and reflect his readings from Aristotelian works. In passages such as this we do not have the division between the doctrines of different schools characteristic of the *Placita* tradition. But we cannot exclude another kind of intermediate source. A similar case is ch. 1, p. 9-10 referring to the uniquely human capacity of laughing, which is also to be found in *PA* 3.10: 673a8, 20 and may have started

⁵¹ Cf. Tieleman, "Galen and Doxography", in Mansfeld & Runia, eds., *Aëtiana IV: Papers of the Melbourne Colloquium on Ancient Doxography* (Leiden: Brill, 2018): 452-471.

⁵² See for the issue of which constituents bodies are composed of ps.Plut. *Plac.* 5.22 ('of which elements animals are composed': only Empedocles' view); Stobaeus does not have anything here. On the nature and substance of semen see *ibid.* 5.3 and 4 (The question whether women emit semen is 5.5).

⁵³ Nemesius' agenda in this part of this work (and elsewhere) can be roughly paralleled from the *Placita* tradition; cf. Aëtius 4.10, 13, 16-18.

⁵⁴ Just below, at p.66.6 M., Morani detects an echo of *HA* 492b27, saying that the tongue is the organ perceiving flavours. Nemesius says that taste is concerned with flavours. This is hardly a significant parallel but at

its career there but had become a common motif⁵⁵ and so cannot be used as evidence for Nemeseius' direct engagement with this work. The same caution should apply to such references as to Aristotle's 'physical works' in connection with the division of the soul into five parts (*De an.* 2.3: 414a31) as opposed to the two parts distinguished by Aristotle in the 'ethical works' (a reference in fact to *EN* 1.13) (ch. 15, p.72.12-21 M.), which does not in itself constitute evidence of Nemeseius having read these Aristotelian works and summarized them in this particular way but is part of a complicated doxographic schema involving also different Stoic views (*ibid.* p.4-21). As such, it invites comparison with doxographic schemas from other authors such as Porphyry and Tertullian. Aristotle's using to different divisions depending on context again represents a kind of intermediate or compromise position.⁵⁶

Conclusion

Aristotelian ideas play a prominent part in Nemeseius' work. The present inquiry has focused on the biological works but (as a glance at Morani's *Index locorum* makes clear) the selection could easily be extended to cover treatises such as *On the Soul* and the *Nicomachean Ethics*, both of which were of immediate relevance to Nemeseius' purpose in writing his own treatise. But we also come across reflections of works such as the *Meteorology* and some of the so-called *Parva Naturalia*. When we limit ourselves to the biological works in the stricter sense, i.e. the works taken to contain Aristotle's biology, it has become clear that he uses them in connection with various themes. As we have seen, he combines Aristotle's reference to the external intellect from *Generation of Animals* 2.3: 736b24 with that in *On the Soul* 3.5 and the characterization of the theoretical intellect as the crowning human faculty (*EN* 10.7-9) to make the point that we need to cultivate a philosophical life of virtue, limiting, in an un-Aristotelian way, the active intellect to philosophical activity. He uses *History of Animals* 8.1: 588b4-22 to argue the unity and coherence of Creation: there are no gaps but gradual differences

⁵⁵ See e.g. Porphyry. *Isag.* 20.

⁵⁶ For the two different divisions in the two different contexts (ethical, physical) cf. Porphyry fr. 253 Smith (= Stob. *Ecl.* I 49.25a, p. 350.19-25 Wachsmuth). For a discussion of this and other witnesses to the doxographic tradition concerned with the structure (or division) of the soul see T. Tieleman, *Chrysippus On Affections. Reconstruction and Interpretation* (Leiden: Brill 2003) 61–88.

between living beings. In the hierarchy of beings humans occupy an intermediate position between rational and non-rational (including inanimate), between immortal and mortal, nature. But he also uses Aristotle (*Generation of Animals* 1.20; cf. 19) for his discussion of human reproduction and in particular the respective roles of male and female, a traditional issue, not just in ancient medicine but also natural philosophy.

The attitude taken by Nemesius to Aristotle is similar to that of Clement and Origen in that he not only criticizes Aristotelian doctrines, but also appropriates some of them, in part or with a twist. In fact, as we have seen in section 3, even where he corrects Aristotle, with the help Galen, he seems to be concerned to keep Aristotle as much as possible on board. His classifications of different and indeed opposing doctrines often serve the purpose not of eliminating some of them but of forging a broad coalition in favour of some of his main points (see especially section 1). It was moreover possible for him to use Aristotle's biology to teach his readers about the structure of Creation (section 2). Among the few things we know about the context in which his work was composed is that Nemesius envisaged a mixed audience of unconverted as well as Christian readers. To persuade the former category it made sense to address the familiar repertory of philosophical issues and show how a Christian answer could be developed, one that included the work of prominent philosophers and scientists such as Aristotle.

Teun Tieleman
Utrecht University

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Natural Sciences and Anthropology in Didymus the Blind's Commentaries on the *Bible*: a Possible Aristotelian Influence

Marco Zambon

This paper gathers from Didymus' exegetical works (in particular from the lessons on the book of *Psalms* and on the *Ecclesiastes*) all significant testimonies concerning his knowledge of natural sciences and his anthropological doctrine. Based on these materials I will briefly discuss their possible sources, trying to answer following questions: a) What kind of Aristotelian doctrines can we recognise in Didymus' statements concerning cosmology, biology and anthropology? b) Is there sufficient evidence to conclude that he had, beside the *Organon*, also a direct knowledge of other Aristotelian works? c) How important are methods and doctrines coming from Aristotle for Didymus' exegetical practice?

Christianism and Greek Paideia

Didymus was almost only a name until the half of the XXth century¹, when in a stone quarry not far from Cairo in Egypt a large quantity of papyrus sheets was found which originally formed eight codices.² Six of them contained exegetical works which could be attributed to Didymus: commentaries on the books of Genesis, Job and

¹ Origen, Evagrius, and Didymus were condemned as heretics in 553; on the circumstances of the condemnation: Franz R. Diekamp, *Die origenistischen Streitigkeiten im 6. Jahrhundert und das fünfte allgemeine Concil* (Münster: Aschendorff, 1899), 129-138; Antoine Guillaumont, *Les "Kephalaia gnostica" d'Évagre le Pontique et l'histoire de l'Origénisme chez les Grecs et les Syriens* (Paris: Seuil, 1962), 81-136. Following his condemnation, much of Didymus' work was lost. Until the middle of the 18th century, only the treatise *De Spiritu sancto*, a part of the *Contra Manichaeos* and a number of exegetical fragments contained in the chains were known; these are the materials included in Jacques-Paul Migne's edition (*Patrologiae cursus completus. Series Graeca* 39: 269-1818).

² On the findings of Tura: Louis Doutreleau, "Que savons-nous aujourd'hui des papyrus de Tura?", *Recherches de science religieuse* 43 (1955): 161-176; Ludwig Koenen - Louis Doutreleau, "Nouvel inventaire des Papyrus de Tura", *Recherches de science religieuse* 55 (1967): 547-564; Ludwig Koenen - Wolfgang Müller-Wiener, "Zu den Papyri aus dem Arsenioskloster bei Tura", *Zeitschrift für Papyrologie und Epigraphik* 2 (1968): 41-63.

Zechariah and the transcript of classes on part of the book of Psalms and on the book of Ecclesiastes. Thanks to this discovery Didymus is now one of the best known Christian teachers of late antiquity.³ Though was blind since his childhood, he was nevertheless he was celebrated by his contemporaries for his learning. Rufinus, who was his disciple, describes him as an accomplished scholar and a philosopher:

[...] The Lord lighted him like a lamp shining with a divine light. [...] In a short time, trained by God, he acquired such a great scientific knowledge of divine and human things that he became teacher at the church school and was highly approved by Athanasius and by other wise men of the church of God.⁴

This judgement is confirmed by the sources we have: Didymus was familiar with philosophical and scientific doctrines, and he used them both to explain the Holy Scripture and to argue his own theological teachings against pagans and heretics.⁵ In doing this he followed the Origenian principle that the “treasures of the heathen” must be put in the service of the truth.⁶ What is interesting for us here is that the works of Didymus show a remarkable knowledge of Aristotle, which was not common among Christian authors.

³ Overall presentations of Didymus: M. Zambon, “Didyme l’Aveugle”, in *Dictionnaire des philosophes antiques*, ed. R. Goulet, (Paris: CNRS Éditions, 2018), 7: 485-513; Grant D. Bayliss, *The Vision of Didymus the Blind. A Fourth-Century Virtue-Origenism* (Oxford: Oxford University Press, 2015); Jonathan D. Hicks, *Trinity, Economy, and Scripture: Recovering Didymus the Blind* (Winona Lake: Eisenbrauns, 2015); Richard A. Layton, *Didymus the Blind and his Circle in Late Antique Alexandria. Virtue and Narrative in Biblical Scholarship* (Urbana - Chicago: University of Illinois Press, 2004); L. Doutreleau, “Vie et survie de Didyme l’Aveugle du IV^e siècle à nos jours”, in *Les mardis de Dar-el-Salam 1956-1957* (Paris: Vrin, 1959), 33-92.

⁴ Rufin. *HE* II 7 (*Die Griechischen Christlichen Schriftsteller der ersten drei Jahrhunderte* 9/2: 1012): [...] velut lampadam quendam divina luce fulgentem Didymum dominus accendit. [...] brevi deo docente in tantam divinarum humanarumque rerum eruditionem ac scientiam venit, ut scholae ecclesiasticae doctor existeret, Athanasio episcopo ceterisque sapientibus in ecclesia dei viris admodum probatus [...].

⁵ M. Zambon, “Didymos der Blinde”, in *Grundriß der Geschichte der Philosophie*. Begründet von Friedrich Ueberweg - Völlig neu bearbeitete Ausgabe. *Die Philosophie der Antike*. Band 5/2: *Philosophie der Kaiserzeit und der Spätantike*, ed. Ch. Riedweg - Ch. Horn - D. Wyrwa (Basel: Schwabe Verlag, 2018), 1506-1518; Blossom Stefaniw, *Mind, Text, and Commentary: Noetic Exegesis in Origen of Alexandria, Didymus the Blind and Evagrius Ponticus* (Frankfurt am Main: Peter Lang, 2010).

⁶ Orig. *Ep. ad Greg.* 1-2; Ex 11, 2; 12, 35; M. Pereira, “From the Spoils of Egypt: An Analysis of Origen’s Letter to Gregory”, in *Origeniana Decima. Origen as Writer*. Papers of the 10th International Origen Congress, ed. S. Kaczmarek – H. Pietras – A. Dziadowiec (Leuven - Paris - Walpole MA: Uitgeverij Peeters, 2011), 221-248; P.F. Beatrice, “The Treasures of the Egyptians. A Chapter in the History of Patristic Exegesis and Late Antique Culture”, in *Studia Patristica*, XXXIX, ed. M.J. Edwards - P. Parvis - F. Young (Leuven: Peeters, 2006), 159-183.

Aristotle was an object of mistrust among Christian writers at least until the end of the IVth century, but it is not very clear how much Christian authors really knew about him.⁷ Was their critical attitude based on a direct knowledge of his thought and writings or did the Christian theologians rely on second hand and rather hostile sources?⁸ In a letter of Jerome (*Ep.* 70, 4) we read that Origen composed his own *Stromata* proving the truth of Christian religion through evidences from Plato, Aristotle, Numenius and Cornutus. This is a very generic statement, but it could be that Origen actually knew Aristotle and the Peripatetic tradition better than we can guess from our remaining evidence.⁹ On the other side, the summary of Aristotelian doctrine given by Eusebius of Caesarea in book XV of his *Evangelical preparation* shows that even a very learned Christian intellectual like him could, in reconstructing Aristotle's thought, completely ignore the authentic writings of Aristotle and rely only on indirect and hostile sources.¹⁰

To get an idea about how much Christian writers could know of the Aristotelian works, we should first consider which kind of Aristotelian *corpus* was available to them.¹¹

⁷ On the reception of Aristotle by Christian authors: Mark J. Edwards, *Aristotle and Early Christian Thought* (London - New York: Routledge, 2019); G. Karamanolis, "Early Christian Philosophers on Aristotle", in *Brill's Companion to the Reception of Aristotle in Antiquity*, ed. A. Falcon (Leiden - Boston: Brill, 2016), 460-479; M. Frede, "Les Catégories d'Aristote et les Pères de l'Église grecs", in *Les Catégories et leur histoire*, ed. O. Bruun - L. Corti (Paris: J. Vrin, 2005), 135-173; Johannes Zachhuber, "Das Universalienproblem in der griechischen Patristik und im frühen Mittelalter", *Millennium* 2 (2005): 137-174; ; L.J. Elders, "The Greek Christian Authors and Aristotle", in *Aristotle in Late Antiquity*, ed. L.P. Schrenk (Washington D.C.: The Catholic University of America Press, 1994), 111-142; David Runia, "Festugière Revisited: Aristotle in the Greek Patres", *Vigiliae Christianae* 43 (1989): 1-34; S. Lilla, "Aristotelismo", in *Dizionario patristico di antichità cristiane*, ed. A. Di Berardino (Casale Monferrato: Marietti, 1983), 1: 349-363; A.J. Festugière, "Excursus C: Aristote dans la littérature grecque chrétienne jusqu'à Théodoret", in Id., *L'idéal religieux des Grecs et l'Évangile* (Paris: Gabalda, 1932), 221-263; Joseph de Ghellinck, "Quelques appréciations de la dialectique et d'Aristote durant les conflits trinitaires du IV^e siècle", *Revue d'histoire ecclésiastique* 26 (1930): 5-42.

⁸ Cf. Karamanolis, "Early Christian Philosophers on Aristotle", 463.

⁹ About Origen's knowledge of Aristotle: Karamanolis, "Early Christian Philosophers on Aristotle", 470-472; Ilaria Ramelli, "Alexander of Aphrodisias: A Source of Origen's Philosophy?", *Philosophie Antique* 13 (2013): 1-49; Henry Crouzel, *Origène et la philosophie* (Paris: Aubier, 1962) 31-35.

¹⁰ Christian authors did not make any difference between Aristotle's doctrines and the later Peripatetic tradition: Karamanolis, "Early Christian Philosophers on Aristotle", 462.

¹¹ On the constitution and circulation of the Aristotelian corpus in the Hellenistic and Imperial Age: G. Feola, "Alcune considerazioni sull'ordinamento del corpus biologico di Aristotele", in *La zoologia di Aristotele e la sua ricezione dall'età ellenistica e romana alle culture medievali*. Atti della X settimana di Formazione del centro GrAL, Pisa, 18-20 novembre 2015, ed. M.M. Sassi - E. Coda - G. Feola (Pisa: Pisa University Press, 2017), 35-57; M. Hatzimichali, "Andronicus of Rhodes and the Construction of the Aristotelian Corpus", in *Brill's Companion to the Reception of Aristotle in Antiquity*, 81-100; J. Dillon, "The Reception of Aristotle in

The Aristotelian *corpus* as we know it today established itself gradually during the first centuries of the C.E. As Porphyry (*Vita Plot.* 24, 2-11 H.-S.) shows, that at the beginning of the IVth century the systematic ordering of the esoteric works, as we know it, was a *fait accompli*, which he attributed without any hesitation to Andronicus of Rhodes; but it is not said that the *corpus* thus constituted was widespread. It is possible that the apparently little knowledge Christian authors show of the esoteric Aristotelian works depended on the difficulty of getting them rather than on their lack of interest in them.

We must also take account of the doctrinal concerns of Christian writers. In general we can assume that they did not like to openly reveal their dependence on pagan culture; thus, Christian authors could actually have a wider knowledge of it than it appears from their writings. We have, in fact, some evidence that there was a tradition of Aristotelian studies among the Christians at Alexandria. Eusebius tells us that in the the Seventies of the III century a teacher called Anatolius, later bishop of Laodicea, was appointed as chief of the Aristotelian school of Alexandria:

Anatolius [...] was an Alexandrian by birth. Concerning his learning and education in Greek philosophy, namely, arithmetic and geometry, astronomy, and dialectics in general, as well as in the theory of physics, he was first among the ablest men of our time, and he was also at the head in the knowledge of rhetoric. It is reported that, for this reason, he was requested by the citizens of Alexandria to establish there the school of Aristotelian philosophy.¹²

Arius, Aetius and Eunomius are credited with the study of dialectics and of Aristotelian doctrine at Alexandria in the first half of the IVth century.¹³ Therefore we can conclude that Didymus had good opportunities to get acquainted with Aristotle's philosophy and works.

Aristotelian Doctrines in a Platonic Frame

Antiochus and Cicero", in *Brill's Companion to the Reception of Aristotle in Antiquity*, 183-201; Paul Moraux, *Der Aristotelismus bei den Griechen Von Andronikos bis Alexander von Aphrodisias*, I (Berlin - New York: Walter de Gruyter, 1973), 3-93; Id., *Les listes anciennes des ouvrages d'Aristote* (Leuven: Éditions universitaires de Louvain, 1951).

¹² Eus. *HE* VII 32, 6 (Sources chrétiennes 41: 223): Ἀνατόλιος [...] γένος μὲν καὶ αὐτὸς Ἀλεξανδρεὺς, λόγων δ' ἕνεκα καὶ παιδείας τῆς Ἑλλήνων φιλοσοφίας τε τὰ πρῶτα τῶν μάλιστα καθ' ἡμᾶς δοκιμωτάτων ἀπενηνεγμένος, ἅτε ἀριθμητικῆς καὶ γεωμετρίας ἀστρονομίας τε καὶ τῆς ἄλλης, διαλεκτικῆς εἴτε φυσικῆς, θεωρίας ῥητορικῶν τε αὖ μαθημάτων ἐληλακῶς εἰς ἄκρον· ὧν ἕνεκα καὶ τῆς ἐπ' Ἀλεξανδρείας Ἀριστοτέλους διαδοχῆς τὴν διατριβὴν λόγος ἔχει πρὸς τῶν τῆδε πολιτῶν συστήσασθαι αὐτὸν ἀξιωθῆναι.

¹³ Socr. *HE* I 5, 2; II 35, 4-5; Sozom. *HE* III 15, 7-8.

Most of the philosophical doctrines we find in the writings of Didymus arise within a school tradition where Aristotelian and Stoic elements are mixed together into a Neoplatonic frame. An example is offered by the explanation of Eccl 7, 25 (“I and my heart went round about – ἐκύκλωσα – to know, and to examine, and to seek wisdom”):

It has already been said many times that the heart means the intellect. Nevertheless the intellect does move neither obliquely nor straight; it turns around itself. Likewise as some of the pagans said that the noetic acts are like wheels and circles turning around. Of course, when the intellect tends towards external things and wants to receive a representation of sensible things, it doesn’t turn around itself. But when it acts as intellect and it directs its attention towards itself, then it becomes the subject and the object of its noetic activity. Indeed the noetic activity always belongs to the intellect in actuality and, in that case, it is never dispersed towards the external things.¹⁴

Didymus speaks of “some of the pagans” but does not specify to which authors he refers. The doctrine that places the rational and directive part of the soul (the ἡγεμονικόν) within the heart is of Stoic origin.¹⁵ The circular motion of the intellect around itself is a Platonic image used to describe either the motion of the universe (*Tim.* 34 A), or the motion of the soul (*Tim.* 37 A e C; *Leg.* X, 898 A-B). The remarks about the actuality of the intellect and the identity in it between the subject and the object of thinking are an Aristotelian heritage (*Metaph.* Λ 7, 1072 b 19-21; 9, 1075 a 3-5). The synthesis of these elements does not come from Didymus: statements similar to those of him can be read in Proclus, but the doctrine expounded here by Didymus is also found in Plotinus and Porphyry.¹⁶

To establish the divinity of the Holy Spirit, Didymus distinguishes in *De Spiritu sancto* (§§ 17; 54-56) what is participable (*capabilis*) from what participates (*capax / capiens*): the participable (Holy Spirit) offers realities of a lower level (rational creatures) an ontological determination (sanctification) that makes them similar to itself, without

¹⁴ Didym. *EcclT* 225, 13-21 Kramer - Krebber: ἡ καρδία πολλάκις ἤδη εἴρηται ὅτι τὸν νοῦν σημαίνει. ὁ νοῦς δὲ οὐ λοξῶς οὐδὲ εἰς εὐθεῖαν χωρεῖ, ἀλλὰ περὶ ἑαυτὸν στρέφεται. αὐτίκα γοῦν καὶ τινες τῶν ἔξω εἰρήκασιν, ὅτι αἱ νοήσεις ὥσπερ τροχοὶ εἰσιν καὶ κύκλοι στρεφόμενοι. ὅταν γὰρ ὁ νοῦς περὶ τὰ ἔξω τείνῃ ἑαυτὸν καὶ τῶν αἰσθητῶν θέλῃ φαντασίαν δέχεσθαι, οὐκ ἔστιν περὶ ἑαυτόν, οὐ στρέφεται περὶ ἑαυτόν. ὅταν δὲ νοῆῃ καὶ ἑαυτῷ ἐπιστάνῃ, αὐτός ἐστιν καὶ τὸ νοοῦν καὶ τὸ νοούμενον. ὁ γὰρ κατ’ ἐνέργειαν νοῦς αἰεὶ τὸ νοεῖν ἔχει, καὶ οὐκ ἔστιν ὅτε χεῖται ἐπὶ τὰ ἔξω. For the analysis of this passage: Marco Zambon, ““A servizio della verità”: Didimo il Cieco ‘lettore’ di Aristotele”, *Studia Graeco-Arabica* 2 (2012): 129-200, at 157-159.

¹⁵ Didym. *EcclT* 33, 1; 44, 15-21; 98, 12-14; 165, 25; 315, 6-9; 337, 19-20; *PsT* 53, 18; 84, 25; 100, 28; 179, 14; 246, 16; 265, 20; 276, 26; 289, 16; 333, 16; *SVF* II 228; 235; 761; 809-811; 822; 837-839; 901-902.

¹⁶ Procl., *In Remp.* II, p. 46, 18-27 Kroll; *In Tim.* II, p. 312, 22-26 Diehl; also Porph., *Sent.* 43, p. 55, 6-19; 44, p. 57, 1-6 Lamberz; Plot., *Enn.* V 3 [49], 5 H.-S.

suffering in that process any diminution or alteration (cf. Plat. *Tim.* 42 E).¹⁷ This way of describing the causality of intelligibles and of establishing a hierarchy between participating and participated realities partly anticipates the doctrine set out in more systematic form by Proclus in propositions 23-24 and 26-27 of *The Elements of Theology*, but there are several precedents for it in Platonism of the imperial age.¹⁸ Although no direct connection can be established, Didymus must have had a not insignificant knowledge of contemporary Platonism and within this framework he also interpreted the Aristotelian doctrines he had integrated into his own thought.

There are general statements or definitions which derive from or agree with Aristotle's doctrine but which were very common in the philosophical language of his time, and do not imply that Didymus had a direct knowledge of Aristotle himself. They are interesting for us because, by using them without further explanations, the teacher supposed that his pupils too were familiar with them. In this way we can retrace the philosophical background shared by Didymus and his audience. An example of this kind of widespread doctrines is the explanation of the title which opens several psalms: "for the end" (εἰς τὸ τέλος). Didymus explained it by referring both to the Aristotelian and to the Stoic definition of τέλος:

It has often been said about the end that it is "that thing for whose sake everything else happens, whereas it is not for the sake of any other thing"; it is also called "the ultimate object of desire" [...].¹⁹

A deeper level of appropriation of Aristotle's thought is shown by passages containing explicit quotations from his works or the systematic use of typical Aristotelian doctrines, e.g. actuality as opposed to potentiality, the different kinds of change, the distinction

¹⁷ Cf. *PsT* 250, 17-18 Gronewald: γέγονεν δὲ τὸ λογικὸν ζῷον, ἵνα δεκτικὸν ᾗ ἀρετῆς. τὸ δὲ δεκτικὸν τινος οὐκ ἐστὶν κατ' οὐσίαν τοιοῦτο. οὐ κατ' οὐσίαν δὲ ἀγαθοὶ εἰσιν οἱ ἄνθρωποι· διὰ τοῦτο γὰρ ἐκτίσθησαν, ἵνα γένωνται ἀγαθοὶ μετουσίᾳ τοῦ ἀληθῶς ἀγαθοῦ; In *Ps. fr.* 738a Mühlenberg: [...] ὡς οὖν αὐτὸς [i.e. ὁ ὁμολογῶν τὸν Ἰησοῦν] ἐν τῷ μετεχομένῳ [i.e. ἐν τῷ Ἰησοῦ], οὕτω καὶ ὁ μεθεκτὸς ἐν τῷ μετέχοντι, καθὼς λέγομεν ἐν τῷ σπουδαίῳ τὴν ἀρετὴν καὶ ἐν αὐτῇ τὸν σπουδαῖον εἶναι.

¹⁸ K. Plaxco, "Didymus the Blind and the Metaphysics of Participation", in *Studia Patristica*, LXVII, ed. M. Vincent (Leuven: Peeters, 2013), 227-237, at 235 refers to Porph. *Symm. zet. ap. Nem. De nat. hom.* 3, p. 42, 22-43, 8 Morani (= Porph. *Fragm.* 260 F Smith); Proclus, *The Elements of Theology*, ed. E.R. Dodds (Oxford: At the Clarendon Press, 1964), 210-218.

¹⁹ Didym. *PsT* 230, 24-26 Gronewald: ἐκεῖνο τέλος ἐστίν, οὗ τὰ ἄλλα πάντα χάριν γίνεται, αὐτὸ δὲ οὐδενὸς ἕνεκα, ὃ καλεῖται ἔσχατον ὀρεκτόν [...]. Cf. Aristot. *Metaph.* 994 b 9-10; *SVF* III 3. 6. 65. 183; Sext. *Emp. Pyrr. hyp.* I 25; Zambon, "A servizio della verità", 196.

between homonymous, synonymous and paronymous things.²⁰ The analysis of these texts of Didymus shows that he was acquainted at least with a part of Aristotle's written works and with some fundamental teachings of him.²¹

An example of how Didymus creatively used Aristotelian notions in his theological reflection is offered by the way he distinguishes between different types of movement. In the context of a christological discussion, he lists the ways in which a change can take place:

Both from Scripture and from the common notions we know about God that he is unchanging and free from alteration: he who does not undergo any quality, does not change and is not subjected to alteration. An alteration is nothing but a change with respect to quality. Not every change is an alteration, but only the change with respect to quality. There are also other kinds of change, since there are also other kinds of movement. [1] What becomes changes [...]. [2] What can increase changes [...]; this kind of movement is an addition and an increase of the quantity. [3] But when a wicked man becomes good or a good man becomes wicked, he got altered according to quality and the same happens when he recovers from illness to health, or the contrary.²²

We find the same list at the beginning of the classes on Psalm 44, where Didymus explains the strange title: "For the end, concerning those who are undergoing an alteration" (εἰς τὸ τέλος, ὑπὲρ τῶν ἀλλοιωθησομένων). The teacher interprets it as an allusion to the achievement of the rational creature in the resurrection:

The alteration is a movement and a change with respect to quality. Not every movement and change are alterations. [1] It is possible to change with respect to coming to be. I say, for example,

²⁰ Cf. Didym. *GenT* 222, 19-25; *PsT* 2, 7-13; 6, 24-7, 10; *EcclT* 80, 1-14.

²¹ On the use of Aristotle by Didymus: Zambon, "A servizio della verità", 129-200; Layton, *Didymus the Blind and his Circle*, 137-141. The name of Aristotle is mentioned in Didym. *EcclT* 69, 10-23; 90, 22-91, 2; 116, 14-21; *PsT* 77, 7-12; in other passages there are more or less explicit periphrases: *EcclT* 226, 23-24 ("the pagan philosopher"); 232, 21-26 ("that famous philosopher"); *ZaT* II 139 ("one of the ancient"); *HiT* 260, 18-19 ("a person") or even more vague references. The title of an Aristotelian writing is mentioned in *PsT* 276, 7-10 (Cat.); *EcclT* 69, 10-23 (*Anal.*); 80, 1-14 (*De int.*). Literal quotations can be found in *EcclT* 116, 14-21 (*Cat.* 7 b 27-35); 232, 21-26 (*Cat.* 3 a 29; *De int.* 16 b 21); 226, 23-24 (*De int.* 17 a 37); 236, 21-26 (*De int.* 16 a 9-11; 16 b 6); *PsT* 77, 7-12 (*Top.* 116 a 36-39); 276, 7-10 (*Cat.* 5 b 22); 303, 19-21 (*De int.* 16 a 9-11); 335, 16-17 (*De int.* 16 a 3-4); *ZaT* II 139 and *EcclT* 309, 13-18 (*EN* 1132 a 20-22).

²² Didym. *PsT* 1, 1-8 Doutreleau - Gesché - Gronewald: Ἐχομεν περὶ θεοῦ διάλημψιν καὶ ἀπὸ τῆς γραφῆς καὶ τῆς κοινῆς ἐννοίας ὅτι ἄτρεπτός ἐστιν, ὅτι ἀναλλοιώτως ἐστιν· ὁ γὰρ ὅλως μὴ ὑποκείμενος ποιότητι οὐ τρέπεται, οὐκ ἀλλοιοῦται· οὐδὲν γὰρ ἕτερόν ἐστιν ἀλλοίωσις ἢ κατὰ ποιὸν μεταβολή· οὐ πᾶσα μεταβολή ἀλλοίωσις ἐστιν, ἀλλ' ἢ κατὰ ποιότητα. εἰσὶν γε καὶ ἄλλαι μεταβολαί, ἐπεὶ καὶ κινήσεις εἰσὶν ἄλλαι. τὸ γινόμενον μεταβάλλει [...]. τὸ αὐξόμενον μεταβάλλει [...]. προσθήκη γὰρ καὶ αὐξήσις ποσοῦ ἐστιν ἢ τοιαύτη κίνησις. ὅταν δὲ ἐκ φαύλου σπουδαῖος ἢ ἐκ σπουδαίου φαῦλος γένηται τις, ἡλλοίωται κατὰ τὴν ποιότητα, ὡς αὖ ὅτε ἐκ νοσοῦντος εἰς ὑγίαν ἔλθῃ καὶ ἔνπαλιν. Cf. Zambon, "A servizio della verità", 189-191 and the comments of E. Prinzivalli in *Didimo il Cieco, Lezioni sui Salmi. Il Commento ai Salmi scoperto a Tura*, ed. E. Prinzivalli (Roma: Paoline, 2005) 96-98.

that an egg becomes a bird, and that a corn seed becomes an ear. [...] [1a] There is also another change, which happens with respect to passing away: when the human body passes away and it is decomposed into fluids, worms and such things, we don't say that it has been altered, but that it has passed away. [2] There is also another movement and change with respect to increase, when an increase takes place and the quantity gets larger. [...] [3] Therefore, the alteration is a movement with respect to quality, like the passage from illness to health or from health to illness, from ignorance to science or the contrary, and from unbelief to belief.²³

The same distinction appears again at the beginning of the commentary on Job: Didymus compares the physical changes, which take place through the increasing in size or the passing away of the body, to the ethical changes, which take place through a deliberation and cause the passage from virtue to vice and the contrary (HiT 1, 25-2, 5).

Didymus reproduces a classification that can be read at the beginning of Book III of Aristotle's *Physics*. Here Aristotle distinguishes changes related to being (γένεσις καὶ φθορά), quantity (αὐξήσις καὶ φθίσις), quality (ἀλλοίωσις) and place (φορά):

What changes, changes always with respect to substance or to quantity or to quality or to place. [...] After having distinguished in respect of each genus what is in actuality and what is potentially, the actuality of what is potentially, as such, is a motion: for example, for what is alterable, as it is alterable, actuality is alteration; for what is increasable and its opposite, decreasable (there is no common name for both), actuality is increase and decrease; for what can come to be and pass away, coming to be and passing away; of what can be carried, actuality is locomotion.²⁴

Didymus employs the same framework, even though he does not take into account the local movement (φορά). What is more interesting is that he applies this classification to the discussion of different topics (christological doctrine, the condition of human beings in the resurrection, ethics) without discussing it; Aristotle's doctrine does not interest him in itself, but insofar as it offers him a coherent reflection on the notion of

²³ Didym. *PsT* 326, 7-14 Gronewald: ἡ ἀλλοίωσις κίνησις καὶ μεταβολή τίς ἐστιν κατὰ ποιότητα. οὐ πᾶσα κίνησις καὶ μεταβολή ἀλλοίωσις ἐστιν. ἐστὶν γὰρ κατὰ γένεσιν μεταβληθῆναι. λέγω γοῦν τὸ φθὼν γίνεσθαι ὄρνεον καὶ τὸν κόκκον τοῦ σίτου στάχυν. [...] ἐστὶν δὲ ἄλλη κατὰ φθορὰν γινομένη· ὅταν φθαρή τὸ τοῦ ἀνθρώπου σῶμα καὶ ἀναλυθῇ εἰς ἰχώρας καὶ σκώληκας καὶ τὰ παραπλήσια, οὐ λέγεται ἡλλοιωθῆναι, ἀλλ' ἐφθάρθαι. καὶ ἐστὶν καὶ ἄλλη κίνησις καὶ μεταβολή κατὰ αὐξήσιν, ὅταν προσθήκη τοῦ προλαβόντος ποσοῦ γίνηται [...]. ἡ ἀλλοίωσις οὖν κίνησις ἐστὶν κατὰ ποιότητα, οἷον ἐκ νόσου εἰς ὑγίειαν καὶ ἐξ ὑγείας εἰς νόσον, ἐξ ἀγνοίας εἰς ἐπιστήμην καὶ ἔνπαλιν, ἐξ ἀπιστίας εἰς πίστιν. This passage is analysed by Adolphe Gesché, *La christologie du "Commentaire sur les Psaumes" découvert à Toura* (Gembloux: J. Duculot, 1962), 232-240; 262-265.

²⁴ Aristot., *Phys.* III 1, 200 b 33-201 a 15: μεταβάλλει γὰρ ἀεὶ τὸ μεταβάλλον ἢ κατ'οὐσίαν ἢ κατὰ ποσὸν ἢ κατὰ ποιὸν ἢ κατὰ τόπον [...]. διηρημένου δὲ καθ' ἕκαστον γένος τοῦ μὲν ἐντελεχείᾳ τοῦ δὲ δυνάμει, ἢ τοῦ δυνάμει ὄντος ἐντελέχεια, ἢ τοιοῦτον, κίνησις ἐστὶν, οἷον τοῦ μὲν ἀλλοιωτοῦ, ἢ ἀλλοιωτόν, ἀλλοίωσις, τοῦ δὲ αὐξητοῦ καὶ τοῦ ἀντικειμένου φθιτοῦ (οὐδὲν γὰρ ὄνομα κοινὸν ἐπ' ἀμφοῖν) αὐξήσις καὶ φθίσις, τοῦ δὲ γενητοῦ καὶ φθαρμοῦ γένεσις καὶ φθορά, τοῦ δὲ φορητοῦ φορά.

“movement”, which can be applied to specific problems of Christian theology and anthropology.

Traces of Aristotle's Biology and Zoology in Didymus' Writings

Various biological and zoological explanations are scattered throughout Didymus' biblical commentaries. In several cases there are more or less significant correspondences between what Didymus writes and what we read in Aristotle's works dedicated to biology and zoology. There are, however, no real quotations, nor any explicit references to Aristotle's scientific doctrines. Didymus sometimes states that he has obtained his information from other sources, but he refers to it in a generic way, speaking of “those who have dealt with <...>”.²⁵ Although the possibility cannot be excluded that he – like other early or contemporary Christian authors²⁶ – was familiar with and used some of Aristotle's biological writings, it seems more likely that the information he possessed in this area depended on intermediate sources.²⁷

Didymus' anthropology can be defined as Aristotelian in a very generic way²⁸: man is a “rational mortal animal”, “capable of receiving science”²⁹; Didymus recognises the primacy and autonomy of the soul with respect to the body, but man is for him properly “the living compound, made up of soul and body” (GenT 54, 22-24). Commenting on Zec 12, 1 (“the Lord [...] moulded the spirit of man in him”), Didymus

²⁵ E.g. Didym. *EcclT* 216, 24 Kramer - Krebber: οἱ περὶ ἀριθμῶν πραγματευσάμενοι; 324, 24 Binder - Liesenborghs: οἱ περὶ φύσεως ζῴων πραγματευσάμενοι; 356, 9 Binder - Liesenborghs: οἱ περὶ φύσεως φυτῶν εἰρηκότες.

²⁶ On the use of *Historia animalium* by Origen, *Basil and other Christian writers*: Karamanolis, “Early Christian Philosophers on Aristotle”, 475; Alan Scott, “Pseudo-Aristotle's *Historia Animalium* 9 in Origen”, *The Harvard Theological Review* 85 (1992): 235–239.

²⁷ On the reception of the biological and zoological writings of Aristotle in the literary tradition of the *mirabilia*: T. Dorandi, “La ricezione del sapere zoologico di Aristotele nella tradizione paradossografica”, in *La zoologia di Aristotele e la sua ricezione*, 59-80; G. Schepens - K. Delcroix, “Ancient Paradoxography: Origin, Evolution, Production and Reception”, in *La letteratura di consumo nel mondo greco-latino*. Atti del Convegno internazionale. Cassino 14-17 settembre 1994, ed. O. Pecere - A. Stramaglia (Cassino: Università degli Studi di Cassino, 1996), 373-460; M.M. Sassi, “*Mirabilia*”, in *Lo spazio letterario della Grecia antica*, I/2, *L'ellenismo* (Roma: Salerno editrice, 1993), 449-468.

²⁸ Bayliss, *The Vision of Didymus the Blind*, 177; Hicks, *Trinity, Economy, and Scripture*, 158-166; Gesché, *La christologie du “Commentaire sur les Psaumes”*, 127-131.

²⁹ Didym. *PsT* 143, 19; *EcclT* 37, 4; 213, 13–14; 234, 28; *ZaT* IV 3; *PsT* 52, 1–3 Doutreleau - Gesché - Gronewald: ὁ ἄνθρωπος δεκτικός ἐστὶν ἐπιστημῶν. πᾶν τὸ ἐπιστημῶν δεκτικόν, λογικόν. ὁ ἄρα ἄνθρωπος λογικός ἐστιν; cf. Aristot. *Top.* I 7, 103 a 27-28; II 5, 112 a 17–19.

highlights the fact that – according to the prophet – God not only created the spirit of man, but created it *in* him, thus indicating the close union established between the human body and soul. Since Zechariah, speaking of the spirit of man, uses a verb (πλάσσω) which the version of the LXX also uses to describe the formation of the body from the dust of the earth (Gen 2, 7), the commentator explains:

The “spirit of man” is not simply “moulded”, but is “moulded in him”; in fact, it is not of corporeal nature, but of rational nature. In a proper sense, however, what is moulded is the body of man [...]. [...] about the genesis of the compound of body and soul, [Job] says: “Your hands have made me and moulded me” [Jb 10, 8]; the body has been moulded, while the soul – called spirit – has been made; and [God] has moulded it in man, making him participate, thanks to the composition, in the perceptive faculty, in such a way as to show that the whole man – endowed with soul and perceptive capacity – has become a living being.³⁰

Didymus knew that, on the basis of some biblical passages (1 Thess 5, 23, Rom 8, 16; Dan 3, 86), some Christian exegetes – in particular his preferred author, Origen – distinguished three elements in the human being: body, soul and spirit.³¹ In this passage however he identifies the soul with the spirit and considers man to be composed only of soul and body.³² In fact, following Philon of Alexandria and Origen, Didymus interpreted the first two chapters of Genesis to mean that the first one (Gen 1, 26-27) spoke of the rational soul, incorporeal and made in the image of God, while the second (Gen 2, 7) spoke of the moulding of the body out of the dust and of the union of the soul with it.³³ He believed that because of the relationship with the body, the soul also acquired the perceptive faculties proper to the sensitive life.

Human beings therefore, in their corporeal life, like all other animals, are moved by a soul capable of perceiving. This does not detract from the fact that the human creature is superior to animals, because it is endowed with *logos*: Didymus speaks, in fact, of

³⁰ Didym. *ZaT* IV 180-181 (Sources chrétiennes 85: 894): Οὐ καθάπαξ δὲ πλάττεται τὸ πνεῦμα τοῦ ἀνθρώπου, ἀλλ’ ἐν αὐτῷ· οὐ γὰρ σωματικῆς φύσεως ἀλλὰ λογικῆς ἐστίν. Πλάττεται δὲ προηγουμένως τὸ σῶμα τοῦ ἀνθρώπου [...]. [...] περὶ τῆς γενέσεως τοῦ συνθέτου τοῦ ἐκ ψυχῆς καὶ σώματος λέγει· Αἱ χεῖρες σου ἐποίησάν με καὶ ἔπλασάν με, πλασθέντος τοῦ σώματος, ποιηθείσης τῆς ψυχῆς ἥντινα πνεῦμα καλουμένην ἔπλασεν ἐν τῷ ἀνθρώπῳ μετασχούσαν ἐκ τῆς συνθέσεως αἰσθητικῆς δυνάμεως, ἣν ὁλος ὁ ἄνθρωπος ἔμψυχος, αἰσθητικός, ζῶν γενόμενος ἀποδειχθῇ.

³¹ Cf. Ir. *Adv. haer.* V 6, 1; Tat. *Ad Graec.* 13; Orig. *Dial.* 6, 20-29; *Princ.* II 8, 4; *In Mt* XIII 2; André-Jean Festugière, “La trichotomie de 1 Thess. 5, 23 et la philosophie grecque”, *Recherches de science religieuse* 20 (1930): 385-415.

³² Cf. Didym. *GenT* 55, 11-56, 9, quoting *Mt* 10, 28.

³³ Didym. *GenT* 57, 22-58, 2; cf. Orig. *Dial.* 12, 4-14; 15, 28-16, 10; 23, 2-4; *HGen* I 13; *HLev* XIV 3; *HLc* VIII 2; Phil. Alex. *De opif.* 69.

“men” as the “principal creation”, to which all other animals are ordered. This superiority implies, according to him, that the human soul is immortal, while the soul of animals are mortal.³⁴ Also according to Aristotle, man is the apex and criterion of reference for the study of all living beings because, like them, he has perceptive capacities and, in addition to them, he possesses the rational faculty.³⁵

According to Aristotle and Didymus, human beings differ from all other animals in the fact that only humans – even though they have in common with many other animals the organs of phonation – have a voice capable of producing a word (λόγος), namely “a sound with a meaning”.³⁶ In his *Politics*, Aristotle specifies that the possession of the voice unites man with many animals, capable of expressing pleasure and pain. However, the possession of the ability to speak is linked to the sphere of ethical-political action and is proper to man only:

language is used to express what is useful and what is harmful, therefore also the right and the unjust; in fact, compared to other animals, it is a characteristic of humans that they alone possess the perception of the good of the bad, the right and the unjust and so on.³⁷

The dimension of ethical action is a point on which the anthropology of Didymus is in interesting agreement with that of Aristotle.³⁸ It is true that possessing the *logos* makes

³⁴ Didym. *GenT* 42, 4-10 (Sources chrétiennes 233: 110): Ἐπεὶ προηγουμένη κτίσις ἐστὶν τῶν ἐπὶ γῆς ἢ κατὰ τοὺς ἀνθρώπους ζῷα θνητὰ τυγχάνοντας, ἀκολουθῶς τὰ ἄλλα ζῷα τε καὶ φυτὰ διὰ τὴν αὐτοῦ χρεῖαν δεδημιουργεῖται [...]; 44, 7-12 (Sources chrétiennes 233: 116): “Καὶ ἐγένετο ἐσπέρα καὶ ἐγένετο πρωΐ, ἡμέρα πέμπτη” καὶ εἰκότως· ἔπρεπεν γὰρ τὰ πολὺ τῆς αἰσθήσεως μετέχοντα ἄλογα ζῷα ἐν τῇ πεντάδι δηλοῦσιν τὰς αἰσθήσεις γενέσθαι. Κἂν γὰρ ἄνθρωποι αἰσθήσεως κοινωνῶσιν, ἀλλ’ ἔχουσιν τὸ μείζον τῆς αἰσθήσεως, τὸν νοῦν καὶ λογισμὸν, τῶν ἀλόγων περὶ μόνην αἴσθησιν ἐχόντων; 48, 11-15; 48, 26-49, 6.

³⁵ Aristot. *De an.* I 1, 403 a 24-b 17; II 1, 412 a 20-21; 412 b 5-6; PA I 1, 641 a 15-23; II 10, 656 a 3-13. Cf. M.M. Sassi, “I trattati di Aristotele ‘sugli animali’: nascita di una disciplina”, in *La zoologia di Aristotele e la sua ricezione*, 15-34, at 19-21; A. Falcon, “Aristotle and the Study of Animals and Plants”, in *The Frontiers of Ancient Science. Essays in Honor of Heinrich von Staden*, ed. B. Holmes – K.-D. Fischer (Berlin - München - Boston: De Gruyter, 2015), 75-91, at 81-82; G.E.R. Lloyd, “The Relationship of Psychology to Zoology”, in Id., *Aristotelian Explorations* (Cambridge - New York - Melbourne: Cambridge University Press [Virtual Publishing], 2001), 38-66, at 43.

³⁶ Aristot. *De an.* II 8, 420 b 32-33; *De int.* 2, 16 a 29; 4, b 26; HA IV 9, 535 a 27 (cf. ps. Plat. *Defin.* 414 D; SVF II 167) and Didym. *EcclT* 95, 2-7; 98, 12-16; cf. Ronald A. Zirin, “Aristotle’s Biology of Language”, *Transactions of the American Philological Association* 110 (1980): 325-347.

³⁷ Aristot. *Polit.* I 2, 1253 a 14-18: ὁ δὲ λόγος ἐπὶ τῷ δηλοῦν ἐστὶ τὸ συμφέρον καὶ τὸ βλαβερὸν, ὥστε καὶ τὸ δίκαιον καὶ τὸ ἀδίκον· τοῦτο γὰρ πρὸς τὰ ἄλλα ζῷα τοῖς ἀνθρώποις ἴδιον, τὸ μόνον ἀγαθοῦ καὶ κακοῦ καὶ δικαίου καὶ ἀδίκου καὶ τῶν ἄλλων αἴσθησιν ἔχειν.

³⁸ Bayliss, *The Vision of Didymus the Blind*, 4-5.

human beings different from and superior to other animals in terms of knowledge, but the latter too possess not insignificant cognitive abilities. For Aristotle the sphere in which man's most distinctive character appears is the practical sphere, because only man is the principle of his own action and is therefore capable of living according to virtues.³⁹

Also according to Didymus, man's possession of the *logos*, which constitutes him "in the image and likeness" of God (Gen 1, 26), is expressed specifically in the ethical dimension - that is, in the capacity, given only to human beings, to "live according to philosophy and virtue"⁴⁰, because that is why they were created. Virtue and vice are, in fact, the outcome of a choice that presupposes the ability to dispose of oneself, which in turn depends on the possession of the *logos*; thus neither children nor irrational beings are capable of exercising virtue.⁴¹ It cannot be said that these elements prove a specific dependence on Aristotle, but they at least indicate a proximity to him in the way that Didymus reflected on certain themes.

Doctrines originating from Aristotle (or attested to in his writings) are also encountered when Didymus dwells on the description of the properties and symbolic meaning of some animals. For example, commenting on Eccl 9, 12 ("Surely the man doesn't know his time: as fishes which are taken in an evil net [...]"), he reports an opinion, attributed to "learned men", according to which there are fishes which possess a kind of language. There is a passage in the *Deipnosophistae* of Athenaeus, where Aristotle is mentioned as holding this opinion:

It has been well said by some learned men — I don't know if it is also true, anyway it has been well said — that if a parrotfish, after having been caught in a net, manages to escape from it, it is impossible for that day to find another fish of the same kind in the same place. [...] With some special sign of theirs, they give directions to those which were absent.⁴²

³⁹ Aristot. *EE* II 5, 1222 b 19-20; cf. Sassi, "I trattati di Aristotele 'sugli animali'", 16-17.

⁴⁰ Didym. *EccIT* 165, 17-18 Kramer - Koenen: ἡ κυρίως καὶ ἀληθῶς ζωὴ τοῦτο τὸ κατὰ φιλοσοφίαν καὶ ἀρετὴν ἐστὶν ζῆν; 238, 8-9 Kramer - Krenker: ὁ γνοὺς ἑαυτὸν οἶδεν, ὅτι γενητός ἐστιν, καὶ οἶδεν, ὅτι πέφυκεν πρὸς ἀνάλημψιν ἀρετῆς; 358, 7 Binder - Liesenborghs: ἀνθεὶ τοίνυν ὁ ἄνθρωπος, ὅτε προκόπτει ἐν ἀρετῇ; *HiT* 152, 32 Henrichs: ἐδημιουργήθη ὁ ἄνθρωπος, ἵνα κατ' ἀρετὴν ζῇ.

⁴¹ Didym. *PsT* 30, 13-18; 93, 21-26; *EccIT* 338, 25-339, 4; *GenT* 1, 25-2, 5; *HiT* 5, 1-7; *ZaT* II 347.

⁴² Didym. *EccIT* 286, 13-16 Kramer - Koenen: καλῶς λέγεται ὑπὸ ἀνδρῶν λογικῶν – εἰ ἀληθές ἐστιν δέ, οὐκ οἶδα, ὅμως δὲ καλῶς λέγεται· ἐὰν σκάρος, φησὶν, ἀνγιστρευθεὶς φύγῃ, ἀδύνατον ἐστὶν εἶτι ἐν τῇ ἡμέρᾳ ἐκείνῃ ἐν τῷ τόπῳ ἐκείνῳ εὐρεθῆναι ὁμογενῆ αὐτῷ ἰχθύν. ὥς λέγειν [...]ἡ[...].....ἰδίῳ τινὶ σημείῳ σημαίνουσιν τοῖς ἀποῦσιν; cf. Aristot. fr. 300 Rose / 252 Gigon (= Athen., *Deipnosoph.* 331 D): Μνασέας δὲ ὁ Πατρεὺς ἐν τῷ Περίπλῳ τοὺς ἐν τῷ Κλείτορι ποταμῷ

The complaint of the Psalmist in Psalm 21, 7 “I am a worm and not a man” is explained by Didymus as a reference either to the humiliation of the Christ or to his birth from a virgin:

Since [the Christ] did not receive his body from the sowing of human seeds, but only from the matter taken from the woman who gave him birth, therefore [the Psalmist] calls him a worm; the worm is not engendered from the copulation, but from the simple matter.⁴³

Spontaneous generation is dealt with by Aristotle in *De generatione animalium* and in *Historia animalium* V and VI.⁴⁴ In *Historia animalium* V 19, examining the ways in which insects are generated, Aristotle talks about some kinds of insects arising out of a grub (σκώληξ), with or without copulation (συνδυασμός). In the same chapter he mentions various types of insects and intestinal worms (ἐλμινθες) arising spontaneously (αὐτόματα) from different materials (dew, mud, manure, wood, hairs, flesh, excrement).⁴⁵ Of the complex cases and distinctions made by Aristotle there is nothing in the brief mention made by Didymus, except the coincidence in the use of the terms σκώληξ (also found in the text of the LXX) and συνδυασμός, which Aristotle was the first to use. It is very probable, therefore, that the interpretation of the worm as the image of the virginal birth of Jesus – although originating in the Aristotelian doctrine of the spontaneous generation of certain types of σκώληξ – was elaborated by a previous author, perhaps Origen⁴⁶, and taken up by Didymus.

Explaining Psalm 41, Didymus mentions the symbolical meaning of the deer and quotes a proverb concerning it:

When [the deer] gets old and sheds its horns, it conceals itself somewhere, until new horns grow and get strong; as long as it doesn't have its horns it is easier to capture it: in fact, they are its weapons and means of defence. Therefore, there is this saying: “Woe to the deers (οὐαὶ ἐλάφοις)

φησιν ἰχθὺς φθέγγεσθαι, καίτοι μόνους εἰρηκότος Ἀριστοτέλους φθέγγεσθαι σκάρων καὶ τὸν ποτάμιον χοῖρον.

⁴³ Didym. *PsT* 28, 15-20 Doutreleau - Gesché - Gronewald: ἐπεὶ οὐκ ἐκ καταβολῆς σπερμάτων ἄνδρὸς γέγονεν αὐτῷ τὸ σῶμα, ἀλλ' ἐκ μόνης τῆς ὕλης τῆς ἐκ τῆς κυούσης λαμβανομένης, κατὰ τοῦτο σκώληκα αὐτὸν λέγει· ὁ γὰρ σκώληξ οὐκ ἐκ συνδυασμοῦ γίνεται, ἀλλ' ἐξ ἀπλῆς ὕλης.

⁴⁴ On this topic: G.E.R. Lloyd, “Spontaneous Generation and Metamorphosis”, in Id., *Aristotelian Explorations*, 104-125; David M. Balme, “Development of Biology in Aristotle and Theophrastus: Theory of Spontaneous Generation”, *Phronesis* 7 (1962): 91-104.

⁴⁵ Aristot. *HA* V 19, 551 a 6-13. 27-29.

⁴⁶ Cf. Orig. *Sel. in Ps.* PG XII, 1253, 22-23: Ὁ σκώληξ οὐκ ἐκ συνδυασμοῦ γεννᾶται, ἀλλ' ἀπὸ ξύλου; the scholia published in the *Patrologia Graeca* under the name of Origen are, however, of uncertain attribution.

which do not have their horns!”. This proverb implicitly signifies: “Woe to the man, who has no help”.⁴⁷

A similar passage concerning the deer in the *Historia animalium* of Aristotle gives a different spelling and interpretation of this proverb:

They shed their horns in places difficult of access and discovery, whence the proverbial expression of “the place where the deers (οὗ αἱ ἔλαφοι) shed their horns”; the fact being that, as having parted with their weapons, they take care not to be seen.⁴⁸

We can imagine that Didymus, listening to Aristotle’s text, understood οὐαὶ ἐλάφοις (woe to the deers) instead of οὗ αἱ ἔλαφοι (where the deers), or that he was misled by his memory. But it is easier to think that there has been an intermediate source between him and Aristotle.

Another animal whose characteristics Didymus describes in a way reminiscent of Aristotle is the hoopoe. Commenting on Zec 5, 9 LXX (“[...] behold, two women coming out. [...] and they had wings like the wings of a hoopoe”), Didymus explains the strange comparison in this way:

To show the fact that the wings of those women are worthy of blame, they have been compared and declared similar to the hoopoe’s wings. This animal is impure, as it loves corpses and human excrements; it feeds at the graves and builds its nest with human excrement, laying its eggs in this unhealthy shelter, so that it can hatch and give birth to little ones similar to itself.⁴⁹

A passage in Book IX of the *Historia animalium* contains the information that “the hoopoe usually constructs its nest out of human excrements”⁵⁰, but in the quoted passage Didymus offers other information about this bird (the hoopoe was used to

⁴⁷ Didym. *PsT* 296, 26-31 Gronewald: ὅταν ἀπὸ γήρως ἀποβάλῃ τὰ κέρατα, φωλεύει που, ἕως ἀνατεῖλῃ κέρατα αὐτὴ καὶ ἰσχυρὰ γένηται· εὐεπιβούλευτος γάρ ἐστιν κέρατα οὐκ ἔχουσα· ὅπλα γὰρ αὐτῆς ἐστὶν καὶ ἀμυντήρια. [...] διὸ καὶ παροιμία τοιαύτη φαίνεται· “οὐαὶ ἐλάφοις κέρατα οὐκ ἔχούσαις”. ἡ παροιμία δὲ αὕτη αἰνίττεται ὅτι· οὐαὶ ἀνθρώπῳ τῷ ἀβοηθήτῳ.

⁴⁸ Aristot. *HA* IX 5, 611 a 25-27.

⁴⁹ Didym. *ZaT* I 390 (Sources chrétiennes 83: 400): Πρὸς παράστασιν τοῦ ψεκτᾶς εἶναι τὰς πτέρυγας τῶν γυναικῶν, παρεβλήθησαν καὶ ὁμοίονται ταῖς τοῦ ἔποπος πτέρυξιν. Ἀκάθαρτον δ’ ἐστὶν τοῦτο τὸ ζῷον, νεκρῶν φίλον ὃν καὶ σκυβάλων ἀνθρωπίνων· νέμεται γοῦν ἐν τοῖς μνήμασιν καὶ νεοσσὶν ἑαυτῷ ποιεῖ ἐκ κόπρου ἀνθρωπίνης, ἵνα ᾧ θείῃ ἐν τῇ νοσερᾷ καλιᾷ ἐπφάσῃ καὶ νεοσσοποιήσῃ νεοττοὺς ὁμοίους αὐτῷ.

⁵⁰ Aristot. *HA* IX 15, 616a 35-616 b 1: Ὁ δ’ ἔποψ τὴν νεοττιὰν μάλιστα ποιεῖται ἐκ τῆς ἀνθρωπίνης κόπρου. In *HA* VI 1, 559 a 8-11 it is said, however, that the hoopoe is the only one among the birds that does not build a nest.

provoke abortions and to make love filters), which is not found in Aristotle and which supposes a different source.⁵¹

I quote a last example of how Didymus used biological knowledge that can refer, at least indirectly, to Aristotle. In the commentary on the book of Job (10, 10: “Didn’t you press me out like milk and didn’t you curdle me like cheese?”) we find a short report on embryology:

[Job] calls “pressed out milk” the seed out of which the animal is made; and as the curdled milk becomes cheese, so the seed, after having been curdled, becomes nature. This condition comes before the embryo. The seed sown in the furrows of the womb, when it has been curdled like cheese, becomes nature, which in turn receives a shape or, as the Scripture says, the “image” [of God] and is impressed with something like distinctive marks. But when the limbs have been distinguished and each of them is separated from the other and acts like the hand or the foot of an animal, at that time the birth of the embryo shows openly the animal.⁵²

The formation of the embryo is also described in the comment on Eccl 11, 5 (“as you do not know the bones in the womb of a pregnant woman, so you will not know the works of God”). There Didymus refers explicitly to the theories of “those who have dealt with the nature of animals” to expose the process of formation of the fetus’ organs: digested food is transformed into blood, while what has not been digested is expelled. The blood condenses into flesh, while what remains of it forms hair, hairs and nails. Didymus points out that biologists do not know how to describe the origin of bones, confirming what Scripture says: “my bone was not hidden from you, which you did in hiding” (Ps 138, 15). As for the formation of the embryo, it comes from the condensed sperm. As it condenses, it is transformed into “nature” (φύσις), which in turn is transformed into flesh, and the embryo, which has become a living being, can be given birth.⁵³ This process is

⁵¹ *ZaT* I 391; L. Doutreleau, “Introduction”, in *Didyme l’Aveugle, Sur Zacharie*, 3 vols., ed. L. Doutreleau (Paris: Les éditions du Cerf, 1962), 1: 115-116.

⁵² Didym. *HiT* 276, 27-277, 11 U. Hagedorn - D. Hagedorn - Koenen: τὸ σπέρμα, ἐξ οὗ συνίσταται τὸ ζῷον, ὡς γάλα ἀμελχθὲν λέγει· καὶ ὥσπερ τὸ γάλα συστρεφόμενον τυρὸς γίνεται, οὕτω καὶ τὸ σπέρμα συστραφὲν φύσις γίνεται· κατάστασις δὲ ἐστὶν αὕτη πρὸ τοῦ ἐμβρύου· τὸ γὰρ καταβληθὲν εἰς τοὺς αὐλάκας τῆς ὑτέρας σπέρμα, ὅταν συστραφῇ οἷα τυρὸς, γίνεται φύσις· ὅπερ λοιπὸν διαπλάττεται ἢ, ὡς ἡ γραφή φησιν, “ἐξεικονίζεται” καὶ δέχεται ὥσπερ χαρακτηῖρας. ὅταν δὲ διαστῇ τὰ μέλη καὶ ἕκαστον ἰδίᾳ γένηται καὶ κινῆται λοιπὸν οἷα ζῴου χεὶρ ἢ πούς, τότε ἐμβρύου μὲν ἢ ἀπότεξις ἀποδείκνυσιν εἰς τὸ φανερόν τὸ ζῷον.

⁵³ Didym. *EccIT* 324, 24-325, 15 Binder - Liesenborghs: οἱ περὶ φύσεως ζῴων πραγματευσάμενοι [...] λέγουσιν ὅτι αἷμα συνίσταται τοιῷσδε· τῆς τροφῆς τῆς προσενεχθείσης διαγευθείσης — ὅταν διὰ τοῦ πεπέφθαι φλέγμα γένηται — ἡ τροφή εἰς αἷμα μεταβάλλει· τὸ δὲ ἄπεπτον ἐκβλητέον ἐστίν, οὐκ ἀναλύεται εἰς τὴν σύνστασιν τοῦ βεβρωκότος, ἀλλ’ ὡς περίττευμα ἀποβάλλεται. [...] εἴτα ἐκ τοῦ αἵματος λέγουσιν πυκνωθέντος καὶ παγέντος γίνεσθαι σάρκα καὶ ἐκ τῶν περιττευμάτων τῆς τροφῆς γίνεσθαι τρίχας, ὄνυχας καὶ τὰ τοιαῦτα, ἃ ὥσπερ περιττεύματα ἐστίν. περὶ δὲ τῆς γενέσεως τοῦ ὀστέου οὐδεὶς ἐκείνων εὗρεν [...] κυοφορεῖ ἢ συνλαβοῦσα ὑπὸ ἀνδρὸς

mentioned, in shorter terms, in the commentary on the title of Psalm 44 (“For the end, for those who are undergoing an alteration”), to which we have already referred. Here Didymus compares the change that is produced in the passage from the seed to the embryo to the change that is produced in the resurrected body compared to the mortal body.⁵⁴

In *De generatione animalium* Aristotle offers a description of the genesis of the embryo similar in some passages to the one we read in Didymus:

When the female’s secretion in the uterus has been fixed by the semen of the male, which acts in a similar way to rennet – and in fact rennet is milk that contains vital heat [...] –, [...] membranes are formed. When the embryo has been formed, it acts similarly to the seeds that are sown. The first principle [of growth], in fact, is also contained in the seeds. And when this principle has been differentiated – while before it was contained potentially – the bud and root are pushed out of it; the root is the one through which [the plant] receives nourishment. [...] in fact what exists grows and the final nourishment of an animal is blood or something similar.⁵⁵

The image of the curdled milk which becomes cheese is used both by Aristotle and Didymus to describe the development of the embryo.⁵⁶ But for Aristotle the seed is like rennet - it is the agent of the curdling process - whereas for Didymus it is the object of that process. Like Aristotle, Didymus believes that the blood is the final stage of transformation of nourishment⁵⁷, but there are also other elements (for instance the Stoic doctrine that the first stage of development of the embryo is the φύσις⁵⁸) and the whole

ἡ σπέρματα δεξαμένη. τὸ σπέρμα δὲ καταβληθὲν εἰς τὴν ὑστέραν πρώτην μεταβολὴν δέχεται εἰς φύσιν. οὐδὲν γὰρ ἕτερόν ἐστιν φύσις ἢ σπέρμα πεπυκνωμένον ἐγγὺς ἔχον τοῦ μεταβαλεῖν εἰς σάρκα. μετὰ τὴν φύσιν ἡ μεταβολὴ εἰς τὸ ἐνβρυον ἄγει, τὸ ἐνβρυον εἰς τὸ ζῶον, μεθ’ ὃ ἡ ἀπότηξις εὐθέως γίνεται.

⁵⁴ Didym. *PsT* 329, 25-28; cf. *EcclT* 103, 4-12.

⁵⁵ Aristot. *De gen. an.* II 4, 739 b 20-740 a 23: “Ὅταν δὲ συστῇ ἡ ἐν ταῖς ὑστέραις ἀπόκρισις τοῦ θήλεος ὑπὸ τῆς τοῦ ἄρρενος γονῆς, παραπλήσιον ποιούσης ὥσπερ ἐπὶ τοῦ γάλακτος τῆς πυετίας – καὶ γὰρ ἡ πυετία γάλα ἐστὶ θερμότητα ζωτικὴν ἔχον [...] –. [...] Ὅταν δὲ συστῇ τὸ κύημα ἤδη παραπλήσιον ποιεῖ τοῖς σπειρομένοις. ἡ μὲν γὰρ ἀρχὴ καὶ ἐν τοῖς σπέρμασιν ἐν αὐτοῖς ἐστὶν ἡ πρώτη· ὅταν δ’ αὕτη ἀποκριθῇ ἐνοῦσα δυνάμει πρότερον, ἀπὸ ταύτης ἀφίεται ὃ τε βλαστὸς καὶ ἡ ρίζα. αὕτη δ’ ἐστὶν ἡ τὴν τροφὴν λαμβάνει· [...] τὸ γὰρ δὴ ὄν αὐξάνεται. τροφή δὲ ζῶου ἡ ἐσχάτη αἷμα καὶ τὸ ἀνάλογον [...]”; cf. 729 a 9-12; 737 a 14-15; 739 b 21-22; 771 b 18-24; 772 a 22-23.

⁵⁶ On ancient embryology: A. Gotthelf, “Teleology and Embryogenesis in Aristotle’s *Generation of Animals* 2.6”, in *The Frontiers of Ancient Science. Essays in Honor of Heinrich von Staden*, ed. B. Holmes – K.-D. Fischer (Berlin - München - Boston: de Gruyter, 2015), 139-174; *L’embryon: formation et animation. Antiquité grecque et latine, tradition hébraïque, chrétienne et islamique*, ed. L. Brisson - M.-H. Congourdeau - J.-L. Solère (Paris: Vrin, 2008); *L’embryon humain à travers l’histoire. Images, savoirs et rites*, ed. V. Dasen (Gollion CH: Infolio, 2007).

⁵⁷ On the function of blood for Aristotle: G.E.R. Lloyd, “The Relationship of Psychology to Zoology”, 44.

⁵⁸ Cf. *SVF* II 743. 745.

picture Didymus gives doesn't show any direct dependence from the Aristotelian writings.

The conclusion of this brief review is rather poor: Didymus possessed a considerable amount of knowledge of philosophical and scientific culture, but was not a philosopher in the way his pagan contemporaries were. Philosophical and scientific doctrines were not studied by him for themselves, but only in order to use them to explain biblical passages, as a complement to their interpretation or as tools to discuss the problems arising from theological teachings.

Several passages in the works of Didymus show an explicit reference to Aristotle or to one of his writings. Almost all these passages are not in the published commentaries, but in the transcript of the classes given by Didymus on Psalms and Ecclesiastes. It seems, therefore, that philosophical topics were openly discussed in the circle of the school, but not in the works composed for a larger written circulation. It is also clear that the pupils of Didymus were acquainted with Aristotle: the teacher quotes passages and uses Aristotelian doctrines, though he never explains them directly.

From the explicit quotations and more extensive discussions of some themes it appears that Didymus certainly knew the logical *corpus* of Aristotle and perhaps also other works by him. It is not possible to say whether Didymus derived his direct knowledge of Aristotle from his scholastic training in grammar and rhetoric (which limited his interest to certain logical writings) and had only an indirect, albeit good, knowledge of other Aristotelian doctrines, or whether he had a greater knowledge of the Aristotelian corpus than appears in his writings.

In any case, we do not find in his writings any direct quotation or explicit reference to Aristotle's biological works. It can be said that some aspects of Didymus' anthropology and ethics have a more explicit Aristotelian colour than his contemporaries. Moreover, in several cases the naturalistic observations he makes in his biblical commentaries correspond to the writings of Aristotle. But Didymus dedicated to the study of nature the encyclopaedic curiosity of an amateur, not a speculative and systematic interest, and his knowledge in this field probably depended on sources – such as the collections of *mirabilia* – whose origin it is not possible to determine more precisely, because he never mentions either authors or titles, but among them it is not probable that there were the biological writings of Aristotle.

Marco Zambon
University of Padova

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The Place of Human Beings in the Natural Environment Aristotle's Philosophy of Biology and the Dominant Anthropocentric Reading of *Genesis*

Giulia Mingucci

In a seminal essay from 1967, historian Lynn White, Jr., argues that the profound cause of today's environmental crisis is the anthropocentric perspective, embedded in the Christian "roots" of Western tradition, which assigns an intrinsic value to human beings solely. Though White's thesis relies on a specific tradition – the so-called "dominant anthropocentric reading" of *Genesis* – the idea that anthropocentrism provides the ideological basis for the exploitation of nature has proven tenacious, and even today is the ground assumption of the historical and philosophical debate on environmental issues. This paper investigates the possible impact on this debate of a different kind of anthropocentrism: Aristotle's philosophy of biology. The topic is controversial, since it involves opposing traditions of interpretations; for the purpose of the present paper, the dominant anthropocentric reading of *Gen.* 1.28 will be analyzed, and the relevant passages from Aristotle's *De Partibus Animalium*, showing his commitment to a more sophisticated anthropocentric perspective, will be reviewed.

Introduction

In a much cited essay from 1967, "The Historical Roots of Our Ecological Crisis"¹, historian Lynn White, Jr., argued that Western Christianity has a long historical legacy of anthropocentrism. The meaning of anthropocentrism is not uncontroversial.² In its original connotation in environmental ethics, and thus in an axiological sense³, anthropocentrism is the belief that "human beings, and human beings only, are of intrinsic value (that is, valuable in and of themselves) and that non-human nature is valuable for

¹ Lynn White, "The Historical Roots of our Ecological Crisis", *Science* 155 (1967): 1203-1207.

² See e.g. Eugene C. Hargrove, "Weak Anthropocentric Intrinsic Value", *The Monist* 75 (1992) 2: 183-207; William Grey, "Environmental Value and Anthropocentrism", *Ethics and the Environment* 3 (1998) 1: 97-103.

³ Cf. Alain Ducharme, "Aristotle and the Dominion of Nature", *Environmental Ethics* 36 (2014) 2: 203-214 at 207.

human purposes (that is, valuable instrumentally – extrinsically – for its ability to serve human ends)”.⁴ Because the intrinsically valuable is that which is good as an end in itself, it is commonly agreed that something’s possession of intrinsic value generates a direct moral duty on the part of moral agents to protect it or at least refrain from damaging it.⁵ Then it is also held that axiological anthropocentrism, by assigning intrinsic value to human beings alone, not only places ἄνθρωπος at the center of ethical concerns, but also and especially displaces the other-than-ἄνθρωπος to the periphery⁶, thus providing the conditions for human supremacy and exploitation of the natural environment and its nonhuman content.

It is not the aim of this paper to enter in the complex debate on the actual role of Christian theology on the rise of modern science and technology along with their exploitative consequences on the natural environment. This paper’s goal is far more narrow: namely it is to draw attention to Aristotle’s philosophy of biology as an alternative perspective to axiological anthropocentrism. To this aim, I will first analyze the axiological anthropocentric perspective which is tied to the so-called “dominant reading” of *Genesis*, by showing that it is constituted by three basic claims: anthropocentric teleology, human ontological superiority, and human dominion. Then, I will argue that Aristotle’s biological treatises undermines this threefold connection by giving intrinsic value also the nonhuman content of living nature.

The Dominant Anthropocentric Reading of Genesis

According to Lynn White, human ecology is deeply influenced by religion. In particular, “the historical root of our ecological crisis” is represented by the Judeo-Christian view that humans are superior over all other forms of life on earth, and that the whole creation has been arranged for their benefit and rule:

⁴ David Keller, ed., *Environmental Ethics: The Big Questions* (Chichester, West Sussex: Wiley, 2010), 4.

⁵ Cf. Andrew Brennan and Yeuk-Sze Lo, “Environmental Ethics”, in Edward N. Zalta, ed., *The Stanford Encyclopedia of Philosophy* (Summer 2020 Edition). URL = <<https://plato.stanford.edu/archives/sum2020/entries/ethics-environmental/>>

⁶ For the displacement of the nonhuman brought about by axiological anthropocentrism, see esp. Eileen Crist and Helen Kopnina, “Unsettling Anthropocentrism” and Matthew Calarco, “Being Toward Meat: Anthropocentrism, Indistinction, and Veganism” in *Dialectical Anthropology* 38 (2014) 4: 387-396 and 415-429 (respectively).

God planned all of this explicitly for man's benefit and rule: no item in the physical creation had any purpose save to serve man's purposes. Especially in its Western form, Christianity is the most anthropocentric religion the world has seen. [...]. Christianity, in absolute contrast to ancient paganism and Asia's religions (except, perhaps, Zoroastrianism), not only established a dualism of man and nature but also insisted that it is God's will that man exploit nature for his proper ends. (Lynn White, "The Historical Roots of our Ecological Crisis", cit., at 1205.)

In White's interpretation, the Christian doctrine of the creation sets the human being apart from nature, advocates human dominion over nature, and implies that the natural world was created solely for human benefit. The biblical text that best exemplifies this view is *Genesis* 1.28:

[T2] And God blessed them, and God said to them "Be fruitful and multiply, and fill the earth and subdue it; and have dominion over the fish of the sea and over the birds of the air and over every living thing that moves upon the earth". (*Genesis* 1.28)⁷

This verse contains a blessing ("God blessed them"), one imperative about human sexuality ("Be fruitful and multiply"), and another that stresses human dominion over the earth and God's other creatures ("subdue [...] have dominion").⁸ It is especially the latter that has been blamed by White and many other ideologues of the ecology movement for giving human beings the license to exploit the environment for their own benefit without regard for the consequences. White in particular argues that the human dominion on earth referred to in *Genesis* is deeply implicated in the rise of Western modern science and the technological mastery of nature that it enabled.⁹

White's thesis relies on a very influential interpretation of *Genesis*, according to which mankind are entitled to subjugate the earth and its creatures on the basis of a divine imperative. This interpretation, which I shall call the "dominant anthropocentric reading

⁷ *The Holy Bible*, Revised Standard Version (Toronto, New York, Edinburgh: Thomas Nelson & Sons, 1952).

⁸ Though the Hebrew terms for 'subdue' (*kabash*) and 'have dominion' (*rada*) are not as strong as their translation in modern languages suggest, they however refer to human sovereignty: *kabash* refers to tillage, and *rada* to governance. Cf. Peter Harrison, "Subduing the Earth: *Genesis* 1, Early Modern Science, and the Exploitation of Nature," *The Journal of Religion* 79 (1999) 1: 86-109 at 88.

⁹ Lynn White, "The Historical Roots", cit., 1205-1206. White finds evidence of attempts at the technological mastery of nature already in the Christian Middle Ages. Whereas the rhetoric of scientific progress in the seventeenth century incorporated explicit references to the text of *Genesis*, the medieval "conquest of nature" found its justification for the most part in pragmatic rather than ideological concerns. On the topic, see Peter Harrison, "Subduing the Earth", cit., esp. at 90-102.

of Genesis”¹⁰, can be traced back at least to Philo of Alexandria (20 BCE–45 C.E.), who especially insisted on the theme of human dominion on earth.¹¹ His treatment of Gen. 1.28 in the *De Opificio Mundi* (77-88) appears to be deeply influenced by his Stoic background, and especially by the Stoics’ affirmation of an “anthropocentric teleology”, according to which everything has been arranged ἀνθρώπων ἕνεκα, for the sake of human beings. In Philo, anthropocentric teleology goes hand in hand with humanity’s ontological superiority over the rest of creation, above all in the possession of reason. Nonetheless, human beings are not the only rational beings: Philo holds that heavenly beings are rational beings standing higher than human beings on the ontological scale; so, human beings are subject to them. By taking, in accordance with Stoic cosmology, reason as the governing principle, Philo constructs his image of the cosmos as a system of rulership, where the only true ruler is God, followed by heavenly things and lastly by human beings. Human dominion is thus limited only to the “sublunary things”– as actually a literal reading of Genesis would suggest (“fill *the earth* and subdue it”).

Philo’s interpretation of T2 might therefore be analyzed in the following three claims:

[A] *Anthropocentric Teleology*: Human natural environment (i.e. the earth) and its nonhuman content exist only for the sake of human beings.

[S] *Ontological Superiority of Human Beings*: Reason places human beings higher than other (earthly) beings on the ontological scale.

[D] *Human Dominion*: Human beings have the right to rule their natural environment and its nonhuman content.

This threefold connection, [A] anthropocentric teleology, [S] human ontological superiority and [D] dominion, paved the way to a “utilitarian” approach to the natural environment¹²: on the one hand, God has given human beings reason, and with this the right to rule the world; on the other, God has prepared a world *serviceable* to human

¹⁰ I borrow this expression from Ronald A. Simkins, “The Bible and Anthropocentrism: Putting Humans in Their Place”, *Dialectical Anthropology* 38 (2014) 4: 397-413.

¹¹ For what follows, cf. David Jobling, “‘And Have Dominion...’: The Interpretation of *Genesis* 1,28 in Philo Judaeus,” *Journal for the Study of Judaism in the Persian, Hellenistic, and Roman Period* 8 (1977) 1: 50-82 (esp. 52-60).

¹² This connection is found very widely outside of Philo, for example in Tertullian: for further references, see David Jobling, “‘And Have Dominion...’”, cit., 52 note 8. For full documentation, see David Jobling, *‘And Have Dominion...’*, Dissertation (New York: Union Theological Seminary, 1972).

beings.¹³ By maintaining the superiority of humans over all life forms on earth, and by depicting all life forms as existing for the use of humans, the dominant anthropocentric reading of Genesis is the fullest expression of axiological anthropocentrism, according to which only humans are of intrinsic value, while nonhumans are valuable just instrumentally.¹⁴

Against the dominant anthropocentric reading of T2, one may argue that the Genesis verse is primarily a pronouncement about human place in the Creation on the borderline between divinity (given by rationality) and animality (given by mortality and bodily affections) rather than a conferral of a license to exploit the earth.¹⁵ This line of interpretation, however, would not confute Lynn White's main argument. White's thesis is not concerned with the meaning of the text as such, but rather with the history of the interpretation of the text. His crucial question is therefore how Genesis may plausibly have been read to inspire and justify massive technological transformations of the environment.¹⁶ His answer is: anthropocentrically. Most likely, this was a cultural imposition on it; but by making human ontological superiority ([S]) go hand in hand with anthropocentric teleology ([A]) and dominion ([D]), the dominant anthropocentric reading paved the way to centuries of interpretation which invoked Gen. I.28 to enforce value systems based on the idea of human *exploitation* of nature.

¹³ Cf. David Jobling, "'And Have Dominion...'", cit., 56. Compare T1: "God planned all of this [i.e. the whole creation] explicitly for man's benefit and rule: no item in the physical creation had any purpose save to serve man's purposes."

¹⁴ Cf. Eugene C. Hargrove, "Weak Anthropocentric Intrinsic Value," cit., at 183.

¹⁵ See esp. Jeremy Cohen, *"Be Fertile and Increase, Fill the Earth and Master It": The Ancient and Medieval Career of a Biblical Text* (Ithaca, N.Y., and London: Cornell University Press, 1989). The conclusion of his extensive study on the history of the interpretation of Gen. 1.28 is that "the primary meaning of Gen. 1.28 during the period we have studied [i.e. ancient and medieval times] [is] an assurance of divine commitment and election, and a corresponding challenge to overcome the ostensive contradiction between the terrestrial and the heavenly inherent in every human being."

¹⁶ Cf. J. Baird Callicott, "Genesis Revisited: Murian Musings on the Lynn White, Jr. Debate", *Environmental History Review* 14 (1989) 1/2: 65-90 at 86. Compare Roderick Nash, *The Rights of Nature* (Madison: University of Wisconsin Press, 1988): 89; Peter Harrison, "Subduing the Earth", cit., 89-90.

Aristotle's Defense of Biology: De Partibus Animalium I.5

Along with the dominant anthropocentric interpretation of the biblical tradition, at the roots of Western science there is also another fundamental source: the Aristotelian corpus of biological writings. Aristotle's inquiries on comparative anatomy and physiology are not only the largest part of his *corpus* of works, but also, and especially, the most creative part of his intellectual maturity and the foundation of a new scientific discipline, biology. Nonetheless, despite their influence in the history of medieval, early modern and modern scientific thought¹⁷, in late antiquity they were not considered of great interest.¹⁸ There seems to be a basic reason for this¹⁹: for philosophers of late antiquities, who were essentially Platonic, the study of the sensible world had an anagogic function, i.e. it served to direct the soul toward the study of the intelligible world. Thus they had a "selective approach" to Aristotle's writings on natural philosophy, an approach which was substantially motivated by their concerns of anthropology and theology. Compared to the observation of plants and animals, the observation of celestial bodies was certainly considered more appropriate to prepare the soul for the study of higher things. Aristotle himself witnessed a similar prejudice toward biology, and it is precisely to defend the dignity of this new discipline from that prejudice that he composed a passionate speech: *De Partibus Animalium I.5*.²⁰

The text is actually a defense of the study of the most humble beings: Aristotle invites his audience not to omit anything around them, because to θεωρία everything, even the most repulsive thing, presents its own beauty. Aristotle declares that he has

¹⁷ Renaissance medicine is proof of their influence (see esp. Stefano Perfetti, *Aristotle's Zoology and Its Renaissance Commentators [1521-1601]* [Leuven: Leuven University Press, 2000]), but it is sufficient to think of the success of Aristotle's scientific terminology, which remained in force until Linnaeus's system of classification (1707-1778): on this latter aspect, see e.g. Wolfgang Kullmann, *Aristoteles und die Moderne Wissenschaft* (Stuttgart 1998).

¹⁸ James G. Lennox, "The Disappearance of Aristotle's Biology: A Hellenistic Mystery", *Apeiron* 27 (1994): 7-24.

¹⁹ Cf. esp. Andrea Falcon, *Aristotelismo* (Torino: Einaudi, 2017), at 105-106. See also Cristina Cerami and Andrea Falcon, "Continuity and Discontinuity in the Greek and Arabic Reception of Aristotle's Study of Animals", *Antiquorum Philosophia*, 8 (2014): 35-56.

²⁰ On Aristotle's polemical aims in *De Partibus Animalium I.5*, see Giulia Mingucci, "Una difesa dello studio della materia vivente: Aristotele, *De Partibus Animalium I 5*", *Antiquorum Philosophia* 14 (2020), pp. 159-175.

already dealt with the celestial region of the natural world and the celestial bodies²¹, and that he now wants to continue his natural research by dealing with sublunary living nature (645a4-5). According to him, this research has equal dignity than “sidereal theology”²², and it might reserve extraordinary pleasures to those who are by nature philosophers, even when it is directed to apparently repulsive realities:

[T3] Since we have completed stating the way things appear to us about the divine things, it remains to speak about living nature, omitting nothing in our power, whether of lesser or greater value. For even in the study of things disagreeable to perception, the nature that crafted them likewise provides extraordinary pleasures to those who are able to know their causes and are by nature philosophers. (Aristotle, *De Partibus Animalium* I.5, 645a4-10)²³

The pleasures of biological inquiries are “extraordinary” (645a9) because their objects have something θαυμαστόν (645a17; cf. 645a23). To the eyes of Aristotle, the ever-changing processes of generation and corruption characterizing living reality have an intrinsic rationality, which is crafted by nature (cf. ἡ δημιουργήσασα φύσις, 645a9; cf. GA I.23, 731a24).²⁴ It is precisely in this intrinsic rationality that the dignity and beauty – in a word, the intrinsic value – of natural objects reside. The way nature works, compared to that of a painter or a sculptor (cf. 645a12-13), is ordered with a view to an end:

²¹ The reference is almost certainly to the first two books of *De Caelo*. For Aristotle’s natural philosophy “work plan”, see *Meteor.* I 1, 338a20-339a10 with Andrea Falcon, *Aristotle and the Science of Nature* (Cambridge: Cambridge University Press, 2005) at 2-7; James G. Lennox, “The Place of Zoology in Aristotle’s Natural Philosophy”, in Robert W. Sharples, ed., *Philosophy and the Sciences in Antiquity* (Aldershot: Ashgate, 2005): 58-70 at 59-65.

²² On astronomy as a “théologie sidérale”, see J.M. Le Blond (ed.), *Aristote philosophe de la vie: Le livre premier du traité sur les Parties des Animaux* (Paris: Aubier Éditions Montaigne, 1945): 182 ad PA 644a25 (*sic*).

²³ Ἐπεὶ δὲ περὶ ἐκείνων διήλθομεν λέγοντες τὸ φαινόμενον ἡμῖν, λοιπὸν περὶ τῆς ζωϊκῆς φύσεως εἰπεῖν, μηδὲν παραλιπόντας εἰς δύναμιν μήτε ἀτιμότερον μήτε τιμιώτερον. Καὶ γὰρ ἐν τοῖς μὴ κεχαρισμένοις αὐτῶν πρὸς τὴν αἴσθησιν κατὰ τὴν θεωρίαν ὅμως ἡ δημιουργήσασα φύσις ἀμυγχανοὺς ἡδονὰς παρέχει τοῖς δυναμένοις τὰς αἰτίας γνωρίζειν καὶ φύσει φιλοσόφους. Text by J. Louis, *Aristote: Les parties des animaux* (Paris: Les Belles Lettres, 1956); tr. by James G. Lennox, *Aristotle: On the Parts of Animals I-IV* (Oxford: Oxford University Press, 2001), slightly modified.

²⁴ The use of the verb δημιουργέω might be an allusion to the divine craftsman, δημιουργός, of Plato’s *Timaeus*: J.-M. Le Blond, *Aristote philosophe de la vie*, cit., at 46 and at 184 ad PA 645a9. For the influence of Plato’s artisan model on Aristotelian teleology, and its transformation from a “divine” to a “natural” model, see Thomas K. Johansen, “From Craft to Nature: The Emergence of Natural Teleology”, in L. Taub, ed., *The Cambridge Companion to Ancient Greek and Roman Science* (Cambridge: Cambridge University Press, 2020): 102-120.

[T4] For what is not haphazard but rather for the sake of something is in fact present most of all in the works of nature; the end for the sake of which each has been constituted or comes to be takes the place of the good. (Aristotle, *De Partibus Animalium* I.5, 645a23-26)²⁵

The end is relative to each natural reality and governs its generation, development and corruption. This is the reason why for Aristotle all natural things, from the highest to the most humble, possess, in equal measure, something θαυμαστόν: everything is constituted in view of its own intrinsic end, and this is “marvelous” to Aristotle.

The ability to “know the causes” (τὰς αἰτίας γνωρίζειν, 645a10) for which living beings are constituted or formed, by adopting a “top-down perspective” (cf. τὰς αἰτίας καθορᾶν, 645a15), that is, the perspective of the form and the end, is the distinguishing feature of the true philosopher of nature. This ability results in a perspective on sensible realities different from the one which the visual organ is responsible for. Scientific observation, θεωρία, is able to recognize beauty where αἴσθησις, sense-perception, sees only “disagreeable” realities (645a7-10). Aristotle therefore invites his audience to “omit nothing in our power, whether of lesser or greater value” (μηδὲν παραλιπόντας εἰς δύναμιν μήτε ἀτιμότερον μήτε τιμιώτερον, 645a6-7).

Among the aspects of living nature which are of “lesser value” Aristotle includes lower animals²⁶: the study of them could in fact be considered to “lack value” (645a27; cf. 645a15) and even to provoke “disgust” (645a22). The expression ‘lower animals’ denotes the members of the group that Aristotle typically calls “bloodless”, which roughly corresponds to that of invertebrates: insects, testacea, crustacea, and cephalopods, which are all “imperfect” (ἀτελεῖς) animals (cf. esp. *HA* I.9, 491b26-27; *GA* III.9, 758b15-21). This group of animals is considered by Aristotle of lesser value with respect to the “blooded” (vertebrates) and especially to the human being:

[T5] Animals of greater value have more heat; for they must at the same time have a soul of greater value; for they have a nature of greater value than that of fishes. So the animals which have a lung with the most blood and heat are greater in size, and that whose blood is purest and in the greatest quantity of all living creatures is the most erect, that is to say man; “up” in his case

²⁵ Τὸ γὰρ μὴ τυχόντως ἀλλ' ἕνεκά τινος ἐν τοῖς τῆς φύσεως ἔργοις ἐστὶ καὶ μάλιστα· οὗ δ' ἕνεκα συνέστηκεν ἢ γέγονε τέλους, τὴν τοῦ καλοῦ χώραν εἴληφεν. Tr. by James G. Lennox slightly modified.

²⁶ Biological matter is also included among the aspects “of lesser value” of living nature. In this context, however, I will deal only with animal kingdom. For matter, see Giulia Mingucci, “Una difesa dello studio della materia vivente”, *op. cit.*

corresponds to “up” in the whole universe just because he has such a lung. (Aristotle, *De Respiratione* 13, 477a16-23)²⁷

Aristotle’s use of the comparative degree of the adjectives τίμιος and ἄτιμος (see esp. T4: 645a7; T5: 477a16, 17, 18) suggests that the so-called “inferior” animals are not absolutely valueless: each animal has its own “value” according to a continuous and gradual scale, from the most perfect or complete to the least perfect and complete:

[T6] In fact nature passes continuously from soulless things into animals by way of those things that are alive yet not animals, so that by their proximity the one seems to differ very little from the other. (Aristotle, *De Partibus Animalium* IV.5, 681a12-15)²⁸

A passage from *De Partibus Animalium* IV.10 (686a24-687a2) is illustrative of Aristotle’s idea of the “continuity” of nature. There, Aristotle arranges the animal genera in successive levels according to the quantity of earthen material and connate heat present in their constitution. Earthen material and connate heat are connected to the posture and the number of feet of an animal species: heat directs the growth of the body according to the direction proper to the natural place of fire, the top; earth instead directs the growth of the body downwards, which is the earth’s natural place. So connate heat is responsible for upright posture; the decrease in connate heat and the increase of the earthen material corresponds to a progressive flattening of the body toward earth and the multiplication of feet. It is therefore outlined a *scala naturae* according to degrees of bodily heat: the maximum level is occupied by the human being, who is the warmest animal and thus the only one to have an upright posture; followed by the four-footed, the many-footed, and finally the footless animals. Aristotle adds that, “proceeding in this way a little [...] a plant comes to be, having the above below, and the below above” (686b32-35).

Gradualness also appears in the classification of animal genera and species. Aristotle in fact bases his animal classification on the criteria of “the more and the less” and of analogy (cf. esp. *HA* VIII.1, 588b4-13; *PA* IV.5, 681a12-15; 10, 686a27-b3;

²⁷ ὅτι τὰ τιμιώτερα τῶν ζώων πλείονος τετύχηκε θερμότητος· ἅμα γὰρ ἀνάγκη καὶ ψυχῆς τετυχηκέναι τιμιωτέρας· τιμιώτερα γὰρ ταῦτα τῆς φύσεως τῆς τῶν ψυχρῶν. διὸ καὶ τὰ μάλιστα ἔναιμιον ἔχοντα τὸν πνεύμονα καὶ θερμὸν μείζονά τε τοῖς μεγέθεσι, καὶ τό γε καθαρωτάτω καὶ πλείστῳ κεκρημένον αἵματι τῶν ζώων ὀρθότατόν ἐστιν, ὁ ἄνθρωπος, καὶ τὸ ἄνω πρὸς τὸ τοῦ ὅλου ἄνω ἔχει μόνον διὰ τὸ τοιοῦτον ἔχειν τοῦτο τὸ μόριον. Text by W.D. Ross, Aristotle: *Parva naturalia* (Oxford: Clarendon Press, 1955). Tr. by W.S. Hett, Aristotle: *On the Soul, Parva Naturalia, On Breath* (Cambridge, Mass., London: Loeb, 1957), slightly modified.

²⁸ Ἡ γὰρ φύσις μεταβαίνει συνεχῶς ἀπὸ τῶν ἀψύχων εἰς τὰ ζῷα διὰ τῶν ζώντων μὲν οὐκ ὄντων δὲ ζώων, οὕτως ὥστε δοκεῖν ἀμπαν μικρὸν διαφέρειν θατέρου θάτερον τῷ συνέγγυς ἀλλήλοις.

686b29-687a2; *GA* II.1, 732b28-733b16). Animals belonging to a single genus have bodily parts similar in configuration but different with regard of sensible qualities (greatness and smallness, softness and hardness). These differences are gradually disposed in a scale according to the principle of “the more and the less:” for example, two birds (i.e. two animals of the same genus but of different species) differ from each other because the one has larger, the other smaller, wings (cf. *PA* I.4, 644a19-21). On the other hand, animals of different kinds, such as birds and fish, have different bodily parts comparable by analogy. In other words, they are different parts that perform the same function: for example, it is possible to compare bird feathers to fish scales on the basis of their common function of protection (cf. *PA* I.4, 644a21-22).

The principles of the more and the less and analogy confirm that nature is conceived by Aristotle as a continuous order, where animals belonging to different genres are compared by analogy and those belonging to the same genus vary in gradual quantitative aspects. This idea is confirmed in the different contexts in which Aristotle compares the human being to other animals: for Aristotle there is a gradualness not only in the possession of physical characteristics such as connate heat and earthy material, but also in the possession of psychical qualities (cf. *HA* VIII.1, 588a18-b3) and “social” features (cf. *Pol.* I.2, 1253a7-8).

The Human Being among Bearers of Intrinsic Value

Aristotle explicitly attributes greater value to human beings than to other species (cf. e.g. *PA* II.10, 656a7-8; IV.10, 686a27-28, 686b23-24, 687a9-10, 18-19; *IA* 4, 706a19-20; 5, 706b10). This does not mean, however, that the human being is placed at the top of a rigid zoological taxonomy. For Aristotle, living nature is arranged according to a continuous and gradual order, a scale of gradation of perfection where differences between human beings and other animals are conceived simply as morphological and functional variations. In this zoological order, the human being occupies a “special place” for his possession of the intellectual capacity, which teleologically determines his other psychological powers and his bodily features.²⁹

²⁹ On the topic, see e.g. Andrea Libero Carbone, “Anomalies de l’intelligence, intelligence de l’anomalie: Note sur la représentation de l’organisation du corps vivant chez Aristote entre les *Parva Naturalia* et les *Problèmes*,” in C. Grellard and P.-M. Morel, ed., *Les Parva Naturalia*

Given the special role mankind has in nature, Aristotle's perspective has been marked as an expression of anthropocentric teleology (see [A] above).³⁰ According to this reading, in Aristotle's worldview things are so arranged that the entire contents of the natural world exist and function only for the benefit of human beings. While god remains the highest thing and the ultimate object of aspiration, human beings are the ultimate beneficiary of the contents of the natural world.³¹

The anthropocentric reading of Aristotle's teleology appears to be supported especially by an over-cited passage from the *Politica*, where Aristotle states that plants exist for the sake of animals, and lower animals for the sake of humans:

[T7] In like manner we may infer that, after the birth of animals, plants exist for their sake, and that the other animals exist for the sake of man, the tame for use and food, the wild, if not all at least the greater part of them, for food, and for the provision of clothing and various instruments. Now if nature makes nothing incomplete, and nothing in vain, the inference must be that she has made all animals for the sake of man. (Aristotle, *Politica* I.8, 1256b11-22)³²

Now, anthropocentric teleology is a view on the world's interactive structure examined as a whole. This kind of global or universal teleology never surfaces in Aristotle's zoological works.³³ Aristotle does not extend the workings of finality in nature beyond the structures and processes of individual organisms.³⁴

It is significant that a passage where human being is explicitly treated as "beneficiary" of the natural environment is from Aristotle's treatise on *Politica*. The aim

d'Aristote: *Fortune antique et médiévale* (Paris: Publications de la Sorbonne, 2010): 11-30; Pavel Gregoric, "Plato's and Aristotle's Explanation of Human Posture," in *Rizhai* 2 (2005) 2: 183-196.

³⁰ David Sedley, "Is Aristotle's Teleology Anthropocentric?," *Phronesis* 36 (1991) 2: 179-196.

³¹ See the distinction between: (a) οὗ ἐνεκά τινι (dative of interest), referring to a beneficiary of a process or state of affairs, and (b) οὗ ἐνεκά τινος (genitive of the object of desire), referring to the aim or object of aspiration of a process or a state of affairs. Wolfgang Kullmann, "Different Concepts of the Final Cause in Aristotle", in Alan Gotthelf, ed., *Aristotle on Nature and Living Things* (Pittsburgh: Mathesis Publications, 1985): 170-175.

³² ὥστε ὁμοίως δῆλον ὅτι καὶ γενομένοις οἰητέον τὰ τε φυτὰ τῶν ζώων ἕνεκεν εἶναι καὶ τὰ ἄλλα ζῷα τῶν ἀνθρώπων χάριν, τὰ μὲν ἡμεῖρα καὶ διὰ τὴν χρῆσιν καὶ διὰ τὴν τροφήν, τῶν δ' ἀγρίων, εἰ μὴ πάντα, ἀλλὰ τὰ γε πλεῖστα τῆς τροφῆς καὶ ἄλλης βοηθείας ἕνεκεν, ἵνα καὶ ἐσθῆς καὶ ἄλλα ὄργανα γίνηται ἐξ αὐτῶν. εἰ οὖν ἡ φύσις μὴθὲν μήτε ἀτελὲς ποιεῖ μήτε μάτην, ἀναγκαῖον τῶν ἀνθρώπων ἕνεκεν αὐτὰ πάντα πεποιηκέναι τὴν φύσιν. Text by W.D. Ross, ed., *Aristotelis Politica* (Oxford: Clarendon Press, 1957), tr. by Benjamin Jowett, ed., *The Politics of Aristotle* (Oxford: Clarendon Press, 1885).

³³ By David Sedley's own admission: "Is Aristotle's Teleology Anthropocentric?," cit. at 195.

³⁴ See esp. Robert Wardy, "Aristotle Rainfall or the Lore of Averages", *Phronesis* 38 (1993): 18-33.

of T7 is not to state a scientific thesis on the cosmic hierarchy; rather, Aristotle is here willing to provide, “from the human-practical viewpoint”³⁵, arguments for the naturalness of acquiring the necessities of household subsistence. To this end, he grounds his reasoning on the assumption that human beings are the beneficiary of nature, so to show that human acquisitiveness is founded in the natural order of things. But when he comes to his scientific treatment of nature and of its content – that is, in the works of natural philosophy, including his biological treatises – he does not even mention this hypothesis. By claiming that plants and animals are for the sake of human beings, Aristotle wants to highlight that human beings are natural beings that are dependent on them for subsistence and thus that human acquisitiveness is natural. But this does not imply that for him human beings are allowed to use and consume everything, or that nonhuman living beings have no value other than the instrumental. What is especially important for the present concern, I now want to argue, is that Aristotle regards all living beings as having intrinsic value, and this places constraints on any possible attitude of dominion.³⁶

It is certainly safe to assert that from the standpoint of Aristotle’s philosophy of biology human beings are the most complex forms of life on earth and that this complexity gives them a “special place” in the sublunary world, as ontologically superior to other embodied forms of life. Nevertheless, his defense of the study of biology in *De Partibus Animalium* I.5 (T3) clearly indicates that all life forms deserve to be equally observed and studied. The order Aristotle establishes within the *scala naturae* is functional to a better knowledge of the object of investigation: by starting from what is of “greater value” (because it is more complex), it is in fact possible to obtain a better knowledge of what is of “lesser value” (that is, simpler). This is the reason why the study of the anatomy and physiology of the human being actually constitutes the starting point of Aristotle’s investigation on the anatomy and physiology of other living beings.³⁷

³⁵ Martha Craven Nussbaum, ed., *Aristotle’s De Motu Animalium* (Princeton: Princeton University Press, 1978): 59-106 at 96. See also Lindsay Judson, “Aristotelian Teleology,” *Oxford Studies in Ancient Philosophy* 29 (2005): 341-366 at 357-358.

³⁶ Obviously, there is the problem of adjudicating between the conflicting ends of living beings. A simple example might be that of nutrition – a diet of meat or vegetables, since both animals and plants are living beings according to Aristotle. At this, Alain Ducharme points out that in the very same chapter from which T7 is taken, Aristotle establishes a boundary of acquisition, namely “no more than it is required for survival”: cf. *Pol.* I.8, 1256b27-37 with Alain Ducharme, “Aristotle on Dominion”, cit. at 213-214.

³⁷ Cf. G.E.R. Lloyd, *Science, Folklore and Ideology: Studies in the Life Sciences in Ancient Greece* (Cambridge: Cambridge University Press, 1983): ch. 1.3.

Acquiring the widest and most profound knowledge of the living nature is in a certain sense a duty for the human being. The human being is in fact characterized by the possession of the intellective power (*voũς*), which places him in the privileged position of having the potential to know and understand (cf. *de An.* III.4, 429a10-11). Moreover, thanks to the *voũς*, human being is also capable of perceiving the good and the evil, and to share these moral perceptions with other members of his species through language (cf. *Pol.* I.2, 1253a7-18). Since the potentials to understand the world and to form moral and political communities are the distinguishing features of human beings, the actualization of these capacities is the achievement of human nature; in other words, in order to be “truly” human, one has to actualize his intellective and moral-political potentials. It is in this sense that the human being does have moral duties toward living beings other-than-humans, namely those of *understanding* the *τέλος* of each of them.

Aristotle is certainly not immune from the inclination to paint humans as being “superior” in relation to other living beings; but human ontological superiority (see [S] above) is not incompatible with the attribution of intrinsic value to all living beings. This view on living nature might be seen as the result of undermining the threefold connection of [A] anthropocentric teleology, [S] human ontological superiority, and [D] human dominion on which human exploitation of nature is based. By maintaining [S], Aristotle is not outside of the anthropocentric perspective; but by grounding it on human greater – *but not exclusive* – dignity, he can attribute intrinsic value also to beings other-than-human, against [A]. Moreover, by conceiving of the realization of human nature as the actualization of a set of natural potentials, including those for knowledge and for morality, he provides human beings not only with *rights* but also with *duties* toward other living beings, thus holding a different version of [D].

Concluding Remarks

It is noteworthy that in late antiquity both Genesis and Aristotle’s biological works had a common destiny: a selective approach, oriented more by interests in anthropology and theology than by a focus on plants and animals for themselves, as bearers of intrinsic value. It is this tradition of the texts, rather than the texts themselves, that constitutes the foundation of axiological anthropocentrism, which is blamed by Lynn White and other environmentalists for Western exploitative attitude toward nature. Their rethinking of the relationship of human beings to the natural environment reflects a widespread perception

in the Sixties that the twentieth century was facing a serious environmental crisis. This widespread perception then resulted in the birth of Environmental Ethics as an academic discipline. This “new” academic discipline³⁸ attempted to pose a challenge to axiological anthropocentrism, by questioning the assumed superiority of human beings to members of other species on earth, and investigating the possibility of rational arguments for assigning intrinsic value to the natural environment and its nonhuman content. While the role of the biblical tradition in these discussions has been embraced or dismissed, but in any case debated, Aristotle’s philosophy of biology has not yet received the attention that, I argued in this essay, it deserves.³⁹

Giulia Mingucci
University of Bologna

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³⁸ See, however, Munamoto Chemhuru, “Elements of Environmental Ethics in Ancient Greek Philosophy”, *Phronimon* 18 (2017): 15-30, on the fallacy of considering environmental ethics as a “new” discipline.

³⁹ Aristotle’s ethics and the Neo-Aristotelian “virtue ethics”, instead, have witnessed a revival in the research field of environmental ethics: see e.g. Susanne Foster, “Aristotle and the Environment,” *Environmental Ethics* 24 (2002) 4: 409-428. To my knowledge, only Alain Ducharme (“Aristotle and the Dominion of Nature,” cit.) and Trish Glazebrook (“Art or Nature: Aristotle, Restoration Ecology, and Flowforms,” *Ethics and the Environment* 8 [2003] 1: 22-36) ground their reflections on Aristotle and the natural environment in his philosophy of nature, but without referring to his biological treatises – which I instead consider fundamental to understand Aristotle’s attribution of intrinsic value to all life forms.

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